CINERGY

CITIZENS FOR ENERGY

GRUNDTVIG

Lifelong Learning Programme

CINERGY

CITIZENS FOR ENERGY

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A Sud Ecologia e Cooperazione
Low Carbon Communities Network
Za Zemiata
Asociatia Prietenii Pamantului
DOOR
CIPRA Slovenia
London Borough of Haringey

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ABOUT THE CINERGY PROJECT

All over Europe more and more people and communities are engaging in post carbon actions and working to develop sustainable energy systems. Communities and local authorities are working together to develop participative methodologies that can engage all stakeholders in local post carbon actions, contributing to the creation of energy communities throughout Europe.

CINERGY is working to build knowledge, skills and shared experiences of post carbon citizenship in Europe. CINERGY does this through joint working and events linking professionals and active citizens involved in community energy and post carbon processes and activities.

At the centre of the project are energy communities and their important role in promoting and developing sustainable energy systems.

CINERGY is a partnership, composed of a local authority, civil society and adult education organisations, which are building a participative process based on sharing and discussing experience, knowledge and competences gained and enhanced during the project. Meetings between participants and local cooperation with other stakeholders allows for the exchange of complementary information through a mutual learning process in which all participants are both learners and teachers.

The project is mainly focused on civil society experiences in post carbon action. In-depth research on EU laws, actions and tools for a post carbon society and energy democracy was conducted in order to provide a theoretical framework to the exchange of good practices. The project uses different participation and communication methodologies and techniques aimed at enhancing knowledge and experiences.

PROJECT OUTCOMES

- Joint international events: 6 transnational meetings and 4 transnational workshops on knowledge, experiences and methodologies related to local energy management and post carbon actions.
- 4 local focus groups organized by each partner in the 6 project countries to share the project experience at the local level and to enhance informal and non-formal learning and participation in post carbon activities.
- Digital database built to map good practices for energy and post carbon actions.
- Development of recommendations to local and European Institutions regarding the promotion of civil society and stakeholders in local energy management and post carbon actions.
- A final transnational conference in Rome.

As mobilities are one of the main goals of the Gruntdvig Programme, a brief summary of our meetings follows.

Meeting in Zagreb (Croatia) in December 2012 was a Kick-off meeting where we talked about project activities and project management and made a division of tasks.

Following workshops followed similar structure – each workshop consisted of:
- presentation of partners' focus groups (a focus group was organised by each partner in their own country before each workshop to discuss given topics with different national stakeholders.)
- discussion of key problems and possible solutions
- field trip on selected good practice examples regarding energy

April 2013: 1st Transnational Workshop in Bucharest (Romania). Topic was "EU Laws, Actions and Tools towards Post-Carbon Society and Energy and Democracy of the Commons". Discussions were focused on the democratization of energy. The public event "Romanian stakeholders' panel" gave the participants the opportunity to meet representatives from several stakeholders and NGOs working on climate and energy issues. Chapter 1 of this e-book is the result of the works of this 1st Transnational Workshop.

July 2013: 2nd Transnational Workshop in Varna (Bulgaria) on "Civil society experiences in post carbon action". Partners' presented good practices of community energy in their countries and visited 3 local experiences: Varna Technical University's solar power

labs; an energy efficient house ("How to transform a typical townhouse into low-energy housing") and an electric car retrofitting facility. Chapter 3 is a collection of all good practices presented during this Workshop.

October 2013: 3rd Transnational Workshop in London (United Kingdom) on "Methodologies of participation and communication". The Workshop included a presentation on 'Lobbying the EU' by Danny Bates (of representative Jean Lambert Green MEP for London) and a presentation from local project Manor House PACK. The group visited the Living Under One Sun allotment; Hale Village apartments (featuring CHP boiler, roof allotments, water recycling, building insulation, energy standards and green roof) and a community owned solar array, installed on the roof of Marks & Spenser, Muswell Hill and met representatives of local community energy company En10ergy. Chapter 2 contains all topics discussed during the Workshop in UK.

February 2014: 4th Transnational Workshop in Ljubljana (Slovenia) on "Valorisation of knowledge and experiences shared during the CINERGY project: development of recommendations to the European Commission towards a post-carbon Europe". The group visited Thermal Spa Snovik, a good practice example on energy efficiency in tourism (for the realization of the excursion only public transport was used, to underline the importance of saving energy in transport). The final part of this e-book – Chapter 4 – contains CINERGY's recommendations to the EU institutions.

PARTNERSHIP

An international partnership is one of the main advantages offered by the Gruntdvig Programme. CINERGY has a partnership composed by 8 partners from 6 different countries from all Europe (Italy, United Kingdom, Croatia, Slovenia, Bulgaria, Romania). This diversity represents a challenge, as each country is living different situations and, therefore, expectations, experiences and competencies are necessarily diversified, but dialogue and participation methodologies contributed to strengthen the partnership throughout the project.

CE.S.F.OR. (Centro Studi Formazione Orientamento) is a non profit organization that works in the fields of Education, Training, Guidance, Counselling and Mobility for young people and adult citizens. The Centre has a Quality Assurance ISO9001:2008. Cesfor works for citizens' social inclusion and the development and learning of the organizations through innovative methodologies, training activities, counselling and research.
www.cesfor.net

Ecologia e Cooperazione ONLUS

A Sud is an independent Italian association founded in 2003, dedicated to developing cooperation between northern and southern countries, environmental and intercultural education in schools, universities, communities and companies; research on issues of environmental conflicts, the ecological reconversion of energy and productive sectors; the promotion of national and International campaigns for environmental and social justice; collaborative and sustainable projects with a European wide network of academics and CSOs; communication and publications on participatory democracy, community and ecological economics.
www.asud.net

The UK Low Carbon Communities Network (LCCN) is a UK NGO that since 2008 has built up a unique open network of some 800 organisations working on low carbon practice and policy. These include voluntary groups, community social enterprises, NGOs, non-statutory 'parish councils' and similar bodies. LCCN's role is to work alongside and communities and organisations in the UK and across the world to encourage the adoption of low carbon and zero carbon policies, technologies and lifestyles through local action, to enable groups engaged in this action to be as effective and efficient as possible and to enable those active at a local level to positively influence UK national and local government policy and practice. Members work on awareness raising, community energy production and

related issues.
http://lowcarboncommunities.org

Za Zemiata (For the Earth) is a Bulgarian environmental NGO, registered in 1995 and determined to work for sustainable life on our planet and combat exploitation of people and nature. Za Zemiata strives for an outward-oriented policy and activities are carried out in co-operation with volunteers and other Bulgarian NGOs. Za Zemiata is the representative organisation of the INFORSE Europe, CAN Europe and of the International Energy Brigades, and a member of GAIA, Central - and Eastern European Bankwatch network and SEEEN (South Eastern Europe Environmental NGO) networks.
www.zazemiata.org

DOOR's mission is education and promotion of sustainable development options, primarily related to energy issues. It has extensive experience and expertise in renewable energy sources and energy efficiency measures - the two key pillars of the sustainable energy. DOOR regularly organizes awareness rising and educational events with multisectoral participation and it promotes dialogue among interested stakeholders of different backgrounds. DOOR's usual target groups are local authorities' representatives, environmental and consumer protection NGOs, trade unions and teachers. It has more than 50 active members and a network of interested volunteers. Within this project, DOOR will mobilise its members, volunteers as well as members of all the target groups who will collaborate closely and develop new approaches and strategies of transition into the post-carbon society.
www.door.hr/wordpress

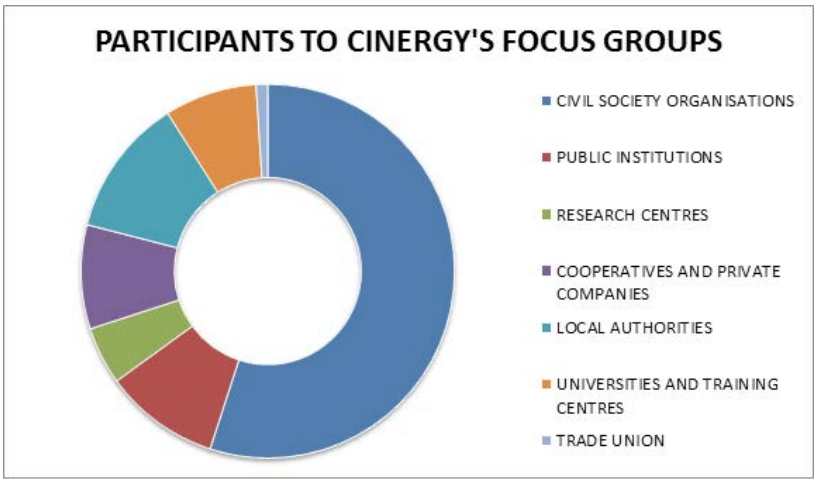
Prietenii Pamantului (Earth Friends) is a Romanian environmental NGO registered in 1991, aiming to promote sustainability through education and public participation. The main activities are focused on education for sustainability with expertise on community development, local participative democracy, energy and environment fields. Prietenii Pamantului has good practicing in the field of sustainable energy but also in public participation, in supporting newly registered NGOs, partnership between NGOs and has history in the field of critical analysis of the projects, and in participating together with professional bodies and public authorities in making environmental policies, strategies and action plans impacting the environment as it results from a long record of more than 60 successful local, national and international projects implemented in the fields of education, campaigning, demonstration.
www.comunitativerzi.ro

CIPRA Slovenia is a non-governmental and non-profit organization, which works on sustainable development in the Alps. We strive for nature and heritage protection and encourage the alpine region to become a low carbon society. We are also working on implementation of Alpine convention, which covers variety of fields: inhabitants and culture, mobility and spatial planning, tourism, nature protection, agriculture and forestry, energy and climate change. Our work is also influencing on local, regional and national policies.
www.cipra.org/sl

The London Borough of Haringey has committed to reduce borough wide carbon emissions by 40% by 2020 and by 2015 for its own estate and operations. Since this time the borough has carried out a number of pilot projects to test approaches to reducing carbon emissions, such as the Muswell Hill Low Carbon Zone and Low Carbon Communities Challenge. In 2011, the Council launched a borough wide initiative Haringey 40:20 (www.haringey4020.org.uk) and membership organisation, working with local voluntary groups to drive forward action on climate change across the borough. The borough has also launched a Carbon Commission; an independent expert group to advise Haringey 40:20 on how to achieve its ambitious target.
www.haringey.gov.uk

THIS PUBLICATION

This e-book is the result of the joint work of CINERGY's partnership. Thanks to the different participatory techniques used throughout the project's life (December 2012 – June 2014), over 200 people – active citizens, administrators, researchers, students – engaged in a debate on energy democracy and energy communities.



~ CHAPTER 1 ~

EU LEGISLATION, DIRECTIVES AND TOOLS TOWARDS A POST-CARBON EUROPE

1.1. "Energy conflicts": New challenges for energy policies, beyond the protection of the environment and the struggle against climate change

For a long time the essential links between energy policy and environmental protection have not been taken into account, but these policies need to be structured within a framework that can facilitate the definition of strategies that go beyond national boundaries, up to a global level, whilst combining the themes of energy and environment, thus providing an integrated response to these issues.
The global challenge to tackle climate change is related to energy issues on two grounds: energy production and sources that reduce greenhouse gas emissions along with a more rational use of energy.
The connection between environment and energy is increasingly evident during times of growing concern regarding the social and economic impact of global warming, and it exacerbates due to the current international tensions linked to the availability of energy resources.
Europe has adopted the combination "energy-environment" in its policies through regulations that encourage the abandonment of coal as a primary energy source; however, aside from environmental criticism, these policies have shown a growing number of limitations.

From this point of view it is easy to interpret energy policies as "peace policies." The Ukrainian crisis of 2014, shortly after the 2008 crisis in Georgia, demonstrates that it is essential to drastically reduce the use of fossil energy sources, focusing on an energy model aimed at reducing the geographical distance between production and consumption, thus fostering the development of renewable energy. The recent Ukrainian crisis reveals that a change in policies is of great importance, not only from an environmental perspective.
As for Georgia, the recent civil wars, widespread corruption and the scarcity of energy resources has impeded Georgia's economic recovery after its independence from the USSR.
The standard of the population's living conditions is extremely poor: at least one third of Georgians live below the poverty line. The Anglo-American construction of the Baku-Tbilisi-Ceyhan pipeline, aimed at bringing Caspian oil to Western markets, has started to represent a hope for the recovery of Georgian economy, but at the same time it has complicated economic and political relations with Moscow, as Georgia is now in direct competition with the traditional Russian hegemony on the management of oil resources in the Caspian Sea.

Natural gas would be then taken from the Caspian Sea and distributed with the Nabucco and White Stream gas pipelines[1] .

Depending on whether the Caspian Sea is legally considered a water basin, an inland lake or a sea, different gas exploitation prospects arise, favouring this or that State. If the Caspian Sea is declared to be a sea, then its water would be divided according to the provisions of the 1982 Montego Bay Convention on the Law of the Sea, and every country would have its' own Exclusive Economic Zone, which could permit an exclusive exploitation of resources.
If it was declared a lake, the profits derived from the high presence of hydrocarbons would be divided equally between the coastal States. The difficulty in finding an agreement lies in the uneven distribution of hydrocarbon reservoirs, most of which, in fact, are

1 The issue of the legal status of the Caspian Sea is rooted in time. There are two agreements that govern the exploitation of the resources of the Caspian, one dating back to 1921, signed by the USSR and Persia, and the other in 1940, between the USSR and Iran. These agreements stipulated that the exploitation of the Caspian should be shared between the two countries. Of course, at that time it was not possible to imagine the emergence of new independent states that would have had ambitions of exploitation of this inland sea.

concentrated in the jurisdiction within the Caucasian republics, particularly in Kazakhstan, which, together with Azerbaijan, pushes for the definition of the Caspian as a sea, in order to freely exploit its resources; this would then disadvantage Iran, which, would in this case, be entitled to exploit only 13% of the resources of the basin. Russia seeks to assert its sovereignty over the waters of the Caspian, trying to draw Azerbaijan and Turkmenistan into its sphere of influence, removing them from the incorporative attempts of the European Union and its energy projects aimed at gaining energy independence from Russia.
The exploitation of the Caspian resources does not involve only the coastal States. It is intertwined with the problem of energy supplies from Russia and the European Union. The EU is increasingly determined to become independent from Moscow for the transportation of gas and to differentiate its energy policy; giving impetus to various projects including, 1: the Nabucco pipeline, which is expected to go from Turkey to Austria via Bulgaria, Romania and Hungary, and 2: the White Stream, which would transport gas from the Caspian Sea to Eastern Europe (Poland, Romania, Ukraine) starting from Tbilisi in Georgia and heading to Supsa via the Black Sea, in direct competition with the Russian South Stream.

The possibility of finding an alternative to Russian supply has prompted countries such as Romania, Georgia and Ukraine to reach agreements with the States bordering the Caspian Sea. In April 2010, a Memorandum of Understanding was signed by Azerbaijan, Georgia and Romania for the transportation of natural gas in the Black Sea, that eventually led to the creation of AGRI (Azerbaijan - Georgia - Romania Interconnector) with the task of evaluating various aspects of the project to then arrive at a conclusion that could link the Caspian Sea directly to Central Europe without passing through Russian territory. Turkmenistan now seems to be geared towards supporting the construction of Nabucco, even offering itself as a supplier of gas and oil and proposing the creation of a trans-Caspian gas pipeline that would be directly connected with Nabucco.

The solution of the legal status of the Caspian Sea also involves those States whose coasts are not washed by its waters. It is evident that these tensions are due to a great hunger for fossil energy resources. Therefore, the overcoming of fossil fuels would not only have a beneficial effect on the environment, but it is a goal to be pursued for the sake of peace in Europe.

It is necessary to overcome the use of fossil fuels and to move towards an energy policy that is not only an alternative to nuclear power but also aimed at protecting global climate through the development of renewable sources and improvements in energy saving and energy efficiency. This would have a significant impact not only in terms of the reduction of environmental and climatic change factors, but also to strive towards a European Union based on peace between peoples, conviviality, new lifestyles and consumption patterns, thus representing an alternative solution to the multiple crises (financial, productive, socio-political, ecological and climate) which are affecting its Member States.
The desired direction is that of a "sustainable" energy model based on renewable energy sources, energy efficiency and distributed production, which would contribute to, and strengthen, those stakeholders in civil society who can contribute to implement a more effective change in energy policies.

Returning to the Ukrainian crisis, it is undeniable that peace and democracy in Europe is endangered by the scarcity of non-renewable energy resources on which our energy model is still based on. In the case of Ukraine, a large part of the problem could have been avoided with the establishment of a common European energy policy designed to validate resources and specificities of each country, geared towards a greater efficiency and towards a strong reduction of environmental impacts, aimed at abandoning the dependence from nuclear energy and fossil fuels by focusing on the rational use of all renewable sources, according to the specific characteristics of each region.

1.2. From conflicts over the hoarding of resources to environmental conflicts: energy policies and climate change.

The race to hoard energy resources along with the collective environmental impacts of energy production/consumption are concerns that could lead to conflict. It is necessary to remember that energy policies have a twofold role: on the one hand they can facilitate the reduction of environmental impacts of the energy production system, and on the other, they can prevent the emergence of new social and economic unrest. It is clear that climate change does not only lead to dangerous consequences for the environment but it can also results in devastating social impacts: eg. the effects of the advancing desertification or of the scarcity of water in agricultural areas on local economies.

The recent 5th IPCC Report on Climate Change includes a prediction of the devastation that climate change will produce in Europe if it is not stopped. The 1700 IPCC scientists, who have been researching global warming since 1988 for the UN, reported that we will have to live with storms, floods, and in an atmosphere contaminated by poisonous gases and dusts. The very geography of Europe would be completely redesigned if temperatures continue to raise: Alpine glaciers will definitely melt down, deserts will advance, the sea would swallow coastal cities and thousands of animals and plants would become extinct.

To understand the impending social drama it is enough to say that the report predicts millions of environmental refugees due to lack of water.
According to the 5th IPCC report, greenhouse gas emissions have risen steeply between 2000 and 2010, more so that in each of the previous 3 decades, and it is for this reason, according to the researchers, that the practice of "business as usual" can in no way lead to the reduction or arrest of the Earth's rising temperature. In particular, the Report highlights the fact that more instruments and tools are needed to reduce the amount of emissions, or the environmental and economic costs of our production model will increase. These costs will become unsustainable for weaker economies, strangled by the inability to intervene economically.
The same Report states that "within the next 5-10 years, many more conflicts will emerge due to water and food issues as a result of climate change", and that, between 2000 and 2010, emission rates have gone from 40 to 50 giga-tonnes of greenhouse gases per year. The annual increase has thus doubled, rising from 1% in 2000 to 2.2% in the last decade, with the emissions of the upper-middle-income countries having almost doubled, taking up the majority of the richest countries' quota, which has over the years maintained a steady but much more gradual increase[1] .

The report argues for the need to respect a strict schedule as part of the fight against global warming and proposes a two-steps strategy.

Step 1 is for the year 2100: for that year the international community has set a goal of limiting the increase in Earth's average temperature (14°C) to a maximum of +2°C, a figure linked to the pre-industrial era, and a threshold that scientists recognize as the only way to avoid irreparable damage to our survival on the planet.
Step 2 is for the year 2030: as reiterated by many global conferences on climate (from Copenhagen's COP15 to Doha's COP18), the interventions must be timed, because it is likely that by 2030 the emissions of greenhouse gases, particularly CO_2, will supersede the 2100 goal. This step is the most important, on which all countries should steer the majority of their efforts.

Aside from measures regarding transportation, housing, industries, urban settlements and citizens' consumption, in order to reduce GHG emissions, interventions related to energy production and consumption are absolutely necessary. From this point of view, the abandonment of the "business-as-usual" practice in the energy field entails a major change in the direction of investments, as the reduction of GHG emissions will cost more every year; in fact, despite the policies put in place so far, the IPCC Report states that if the policies remain unchanged the costs to reduce GHG emissions will increase from 1.6% to 3% every year.
After analysing the 1,200 scenarios proposed in the scientific literature, the third part of the IPCC Report outlines a hypothetical framework of the direction cash flows should take, on a global scale, between 2010 and 2029, to effectively reduce emissions and achieve the impending milestone for 2030. Based on this analysis, the annual investment for the production of electricity

1 In 1990 countries such as China, India, Brazil and South Africa did not reach 10 giga-tonnes of GHG emissions, but between 2000 and 2010 they reached an average of 18 giga-tonnes of emissions.

from fossil fuels is expected to decline by about $30 billion (-20% compared to 2010). Instead, the resources invested in renewable sources should increase by about $147 billion (+100% compared to 2010). These estimated figures were calculated on the current investment in the global energy system, this equates to about 1.2 trillion dollars a year. The current business structure needs to be changed and the scale of investment proposed could ultimately be more cost-effective over a long period of time.

From this perspective, the European Council's decision (March 2014) to postpone conclusions on the new Directive on climate is alarming; it is hard to understand the reason of this delay. The only real solution should be based on zero tolerance of fossil fuel usage, a creation of a new energy model based 100% on renewable energy, the replacement of the old centralized model of production and distribution of energy, the installation of advanced solar and wind energy technologies… all this cannot be achieved without the active participation of citizens in all decisions concerning the management of their territory.

Shale gas exploring and exploitation in Romania

May 2/2012: Once nominated, the government Ponta presented for the public a Governance Program in which one of objectives stated: Immediate setting-up of a moratorium regarding shale gas exploitation until the end of researches on environmental impact of hydraulic fracking".

June 22/2012: Victor Ponta declared that Romania will analyse in December its position regarding the exploitation of Shale Gas."We don't want to be the alone accepting neither opposing the use of shale gas" said Ponta for APP.

July 5/2012: Prime Minister Ponta announced that he will hire Wesley Clark – American general in retreat, as adviser in the field of strategy and security. Clark is member in the Director Council of BNK Petroleum, an oil company. The company, in that Clark is member of steering committee operates in the field of shale gas in Poland.

December 20/2012: The new Governance Program adopted by Ponta government includes restarting of actions of exploring to identify the gas fields as one of the priorities of the energy sector.

January 5/2013: The prime minister Ponta announces that "the idea of shale gas must be considered with positive seriousity".

1.3. First conclusions: Geopolitics versus the biosphere

Seemingly this issue is the crux of the conflict between fossil and renewable energy sources, with both the economy and politics attempting to remove the issue of resource exhaustion and climate change from the debate. The underestimation of the ecological debt and an ideology that justifies social inequality within the accounts of the current monetary debt reinforce a centralized energy model: based on the combustion of fossil reserves; on the requisition of huge reservoirs of water masses, etc. In contrast, the benefit of citizens and peoples, the availability of technologies that use alternative sources efficiently, the spread of a scientific culture that exceeds mechanization and reductionism, as well as the establishment of a conscious organization of territorial democracy, can all bring to fruition an 'energy revolution', which considers public access to decentralized and cooperative local renewable sources more important than profit. Alongside these two ideologies the conflict between the governance of the energy market – meant to be a product owned by a combination of states, multinational corporations, military facilities - and the right to energy as a common good, continues.

If the decentralized and cooperative systems were to prevail, the organisation of mobility and transportation should be reconsidered, agricultural models and a power supply systems which are disconnected from the natural cycles would lose their appeal and convenience, furthermore the life cycle of non reusable or recyclable goods/materials would necessarily be redesigned.
In the face of a potentially enormous breakthrough, it appears instead that governments and international institutions have chosen to favour the advancement of new technologies for the extraction of gas (shale gas) and nuclear power. Nevertheless, these chosen solutions are unsustainable and will have severe impacts on: national health, environment, democratic control.
To understand the turning point that could be represented by the extraction and sale of shale gas in Europe, it is beneficial to reflect, once again, on the role played in the Ukrainian crisis by the potential extraction of shale gas in the country's territory, that could put the EU in direct competition with Russia's export of natural gas.

In fact, in some EU countries, the prohibition of extracting shale gas could favour Gazprom. In Bulgaria a moratorium on shale gas was introduced in 2012, just prior to the South Stream gas pipeline negotiations with Russia (that is trying to convince Romania to join the pipeline project). Bulgaria reaffirmed the moratorium in 2014, banning shale gas exploration. In the Czech Republic, the moratorium will remain in force until the pipeline connected to the North Stream pipeline is completed. The North Stream pipeline will travel under the Baltic Sea (from Russia to Germany).

Similarly, Poland, whose shale gas reserves – amongst the most significant in Europe – are estimated at about two trillion cubic meters [346 to 768 of which could be extracted] could be interested in exploiting this potential to gain independence from Russian gas supplies. In this case, however, Poland's decision is still uncertain – the energy conversion strategy from coal to gas, recommended by the EU, could then based on a technique that impacts on the environment.

At present, France, Bulgaria, Romania and the Czech Republic have suspended the exploitation of their deposits due to environmental concerns. The Romanian government of Victor Ponta has declared itself in favour of freezing the exploration of shale gas. The new Romanian economic programme states, "a moratorium on the exploitation of shale gas will be introduced as soon as possible, pending the completion of the European research on the effects of hydraulic fracturing on the environment." These positions are opposed by the U.S. multinational Chevron, which owns 4 gas exploration concessions in Romania. Chevron had also received a request asking to probe some deposits of shale gas in Bulgaria, which would compromise the project approval of a resolution to "permanently" prohibit the drilling and exploitation of oil and gas extracted from shale fracturing. France was the first country in the world - immediately followed by Bulgaria – to prohibit the use of this technique.
In Italy, a wide area of fields in the Po Valley can be evidently seen to be sloping, in regions such as Emilia-Romagna, Veneto, Lombardia, Trentino-Alto Adige and Friuli-Venezia Giulia; finally, in a climate of almost total disinterest, on the 18th of September 2013, the Environmental Commission of the Italian Parliament passed a resolution "that immediately excludes any activity related to fracking, that is, the extraction of oil through hydraulic fracturing of underground".

In October 2013, the European Parliament has approved the draft of the new Directive which could introduce mandatory Environmental Impact Assessments on activities related to the exploration and extraction and which should come into force by 2016. Strasbourg has also introduced the requirement of absolute independence of the client from the competent authority and eliminated the possibility for Member States to grant derogations to special projects (the only exceptions are those projects which are motivated by reasons of public safety).
These are positions that cannot be ignored by the European Commission and that observe that it is essential to tackle the energy problem not from a perspective of rivalry between Russia and Europe but applying the "precautionary principle" with respect to environmental damage related to the extraction of shale gas.

As regards, however, the strengthening of investments in nuclear power (this is escaping the attention of many observers), the inverse relationship between nuclear disarmament and proliferation of civilian nuclear power needs to be observed.

The investment in nuclear energy has in fact proven to be tempting and continues to inspire the industrial policies of the world powers. The global nuclear power industry is steadily advancing, with 70 reactors under construction around the world and another 160 or more scheduled during the next 10 years. Most of the increase in planned capacity (over 80 %) will be concentrated in countries that already use nuclear power and possess nuclear arsenals. So, while popular sentiment focuses on renewable energy, nuclear power and shale gas technologies seem likely to be available soon on a large scale as they are compatible with the current centralized system of energy production[1] .

[1] China is embarking on a huge increase in nuclear capacity to 58 GWe by 2020, while India's goal is to add to those already in operation from 20 to 30 new reactors by 2030.
At the commercial level, finally, three major alliances between Western and Japanese are getting stronger: Areva, a French company, with Mitsubishi Heavy Industries, Japan; General Electric of the U.S. with Hitachi, Japan; Westinghouse of the U.S., but controlled by 77 percent by Toshiba, Japan. Many of China's reactors use technology from Canada, Russia, France and the United States, while China assists countries such as Pakistan in the development of their nuclear programs. Russia is active in the construction and financing of new nuclear power plants in several countries. South Korea is building a nuclear power project worth 20 billion dollars in the United Arab Emirates.

1.4. The enhancement of the critical aspects of the ETS in times of financial crisis

As it stands, the main instrument of European policies designed to reduce emissions is not exempt from criticism either.

The Emission Trading Scheme (ETS) is the first and, so far, the greatest example of a regulated market of CO_2 emissions; now in force for 9 years, it does not yet work for the purpose for which it was created. The carbon market has represented a great hope for all environmental economists of the late 20th century, and the ETS, set up in 2005 by the European Commission, was meant to respond to this hope. The production of CO_2 is a negative externality of economic action which impacts on the welfare of other subjects, thus generating a social cost; if companies are not required to pay this cost, they have then no reason to take this cost into account when they determine their levels and patterns of production, ending up producing more pollution than it is socially sustainable.

One of the solutions adopted to solve the problem is the regulation of the production of pollution: States set caps on emissions and ensures that they are followed and respected. However, as monitoring the caps is a difficult task, it was considered necessary to entrust the market with the generation of economic impulses that tend to make the abatement of emissions cost-effective and convenient.
If it is true that pollution is a "public bad", like the case for public goods, then the market is failing to determine the social optimum, i.e. a sustainable level of production for the welfare of the community – a level that meets the environmental and social needs without putting a strain on those who produce polluting goods.

This leads to the idea of creating an artificial market, where a Regulator establishes the total amount of the offer (i.e., the total amount of tons of CO_2 that the economic system can produce), obliging companies to ask for emission quotes depending on their levels of pollution (this system is technically called "cap and trade").
In a nutshell, by assigning each company a share of "emission rights", those companies that pollute in a greater measure are likely to buy emission rights from those companies that pollute less. At that point, pollution enters their cost function and in time the companies will be encouraged to reduce their pollution levels by becoming more energy efficient. The ETS is now fulfilling this function. The European Commission allocates emission quotas to each country that distributes them to each company. In a way, this avoids the penalization of companies that are exposed to international competition from other companies that operate in countries where there is no such system. A steel mill in competition with Chinese steel mills will receive more shares, while a national energy company will receive less, as the target market and competitors are restricted to Europe and therefore subject to the same regulations.

Aside from other critical aspects, at the time that the system was introduced, the EU could not predict the effect it would have on the outbreak of one of the most serious crises of capitalism and it is no coincidence that in the IPCC Report certified that, even if only by a small percentage, the observed reduction of annual GHG emissions is partly due to the economic crisis. The productive contraction and the consequent lowering of industrial energy consumption from 156 thousand GWh in 2007 to 130 thousand GWh in 2012 (a level unseen since 1995) has meant that the share of CO_2 emissions set by the European Commission (which have since remained unchanged) exceed the total emissions produced by European industry, generating a substantial surplus of allowances, which is valued poorly by the law of supply and demand.
This on the one hand encourages the hoarding of a sort of "future pollution law" in the sense that the lowering of the cost of emission allowances favours companies that deal with the "regulatory risk" or the fear that the Commission will put in place a more restrictive regulation to give value to the shares in circulation.
On the other hand, although there is a variable market price driven by constant offers of purchase and sale, present on the Stock Exchange of CO_2 and other macroeconomic factors, the value amounted in recent years to about EUR 5 per tonne of CO_2 emitted. Whilst it is believed its price should be at least EUR 20 per tonne, in order to have a real impact on CO_2 emissions.

One solution would be to reduce the circulating quotas,

but this would increase the cost of production by reducing the competitiveness against companies that operate outside the ETS. In a time of crisis like the one that is currently disrupting the European economy, it is highly unlikely that this solution would be implemented. In fact, there is talk about pushing back this solution to 2021, thanks to the efficient work of the industrial lobby in Brussels. In the meantime, the Commission has sought a short-term solution to increase prices by reducing supply through the provision of permits/ credits during the period 2014-16 (back loading), a mechanism that led to the reduction in the supply of around 40%. It is uncertain what decision will be chosen post-2016, credits may eventually reappear on the market, or, alternatively they could completely disappear.

As a paradox, the crisis has done more for the climate than any of the "official" regulatory mechanism put in place by EU and International Institutions…

In a nutshell, one can say that the emission trading system functions through the transformation of the benefits to the environment achieved through the reduction of CO_2 emissions in pieces of paper traded on the global market and to be collected in another point on the planet, maybe also in areas characterized by an increase of the industrial production. This mechanism can be defined as a "virtualization of pollution."

EU action on energy issues has a complex genesis. Energy was not included at first in the agreements of the Treaty of Rome that gave birth to the European Economic Community in 1957, as it was for agriculture and for particular technologies such as coal, steel, and, later on, nuclear power (The Euratom Treaty, 1958). Energy strategies and energy tariffs and taxes have always been different in each EU country, each applying its own national rules on these issues; the EU started to include energy within its competences in virtue of other issues: environment, competitiveness, social cohesion, scientific research and cross-border trade.

1.5. European strategy on renewable energy from its birth

In the last few years, energy policies in EU countries have focused on two main objectives: responding to those environmental challenges related to the use of fossil energy sources and, in particular, the objective of reducing Green House Gas (GHG) emissions; increasing the efficiency of the energy industries and, in particular, improving the competitiveness of the electricity and gas markets without jeopardizing the security of supply or the state of health of the environment.

Regarding the first objective, since 1990 the EU has played a leading role at the global level, it was the first to deliberately adopt as its objective the stabilization of CO2 emissions to 1990 levels by the year 2000. The Council Meeting of EU Ministers for the Environment of 17 June 1998 established the continuing commitment of the Community and its Member States to fulfil the commitments under Article 3 of the Kyoto Protocol, towards the reduction of 8% in greenhouse gas emissions to be achieved by the Community as a whole. This objective should then be reflected at the national levels in a set of policies and a national action plans for the achievement of these goals.

Reduction targets were to be achieved through subsequent steps, with the first CO2 emission reductions detectable from 2002 and with a first significant intermediate result in 2005; the use of "flexible mechanisms" was intended to supplement national measures; the actual reduction in emissions was subjected to verification and monitoring on an annual basis, both at national and EU level.

Regarding the second objective, the conclusions of 17 June 1998 explicitly recalled the context and the EU policy framework within which to place emission reduction measures. In particular: the IPPC 96/61/EC Directive, which requires the use of the best techniques available in industrial processes from 2000 in new plants and from 2006 in existing plants; Directive 96/92/EC concerning the liberalization of the market and the efficient use of energy, as well as the directive approved on May 11, 1998 on the distribution and transmission of natural gas; the White Paper of the European Commission on the development of renewable energy sources (26th of November 1997), which assumes the minimum scenario of doubling the production of energy from renewable sources; the conclusions of the EU Council of Energy Ministers (8th of December 1997 and 11th of May 1998), emphasizing the need to encourage the promotion of renewable energy sources, energy efficiency and natural gas combined cycles; the conclusions of the EU Council of Ministers for Environment of the 25th of June 1996 for the reduction of fuel consumption of motor vehicles by 2005; the European Commission's Communication on transport and CO2 emissions (COM 98/204) that identifies the technological, organizational and fiscal measures for the reduction of emissions; tax measures set by the Council and by the European Commission to promote renewable energies and low-carbon sources; the promotion of cultivations for biomass energy production as part of the Common Agricultural Policy (CAP); the adaptation of waste management policies to the GHG emission reduction targets, with particular reference to methane emissions from landfills.

In recent years the EU developed several tools, along with the national programs, to promote the achievement of Kyoto targets. In particular, the European Council of the 1st of December 2003, cites: the European Climate Change Programme - ECCP; Directive 2003/87/EC establishing a greenhouse gas emission trading scheme; the proposal for a Directive COM (2003) 403 of the 23rd of July 2003, designed to allow the use of emission credits within the European emission trading system, as foreseen by Kyoto Protocol mechanism (Joint Implementation – JI – and Clean Development Mechanism – CDM); the monitoring mechanism of EU greenhouse gas emissions, set up by Council Decision 93/389/EEC, subsequently amended by Decision 99/296/EC and Decision 2004/280/EC.

As for the developments of the negotiations under the Framework Convention, the conclusions of the EU Council of Ministers for Environment of 2 March 2004 emphasized the importance of the entry into force of the Kyoto Protocol, stating as its objective the containment of the increase in Earth's average temperature to 2°C. The Council asked the Community and its Member States to take into account the medium and long-term strategies for the reduction of emissions that included specific targets.
Ultimately, the EU has set out the economic and industrial policies of the early decades of the 21st

century in the context of the Kyoto Protocol.

…. And today

Based on the experiences and developments of energy policies that have seen an increasing integration of environmental issues within energy strategies, the EU has defined its own strategy for the reduction of GHG emissions of 20% by 2020, later formalized in Directive 2009 / 28/CE of June 5 2009, with specific guidelines related to renewable energy sources.

In the period 2001-2008 several preparatory actions have taken place, with the participation of various actors who have contributed to the definition of a shared European energy strategy. The main directives issued are: 2001/77/EC on the development of renewable electricity; 2004/8/EC on the promotion of cogeneration; 2005/32/EC on eco-design of energy-using products; 2006/32/EC on energy end-use efficiency and energy services; 2008/98/EC on waste; 2009/29/EC (amending of 2003/87/EC) to improve and extend the EU's emission trading system.

The climate and energy package is a set of binding legislation that aims to ensure the European Union meets its ambitious climate and energy targets for 2020. These targets, known as the "20-20-20" targets, set three key objectives for 2020:

- A 20% reduction in EU greenhouse gas emissions from 1990 levels;
- Raising the share of EU energy consumption produced from renewable resources to 20%;
- A 20% improvement in the EU's energy efficiency.

The EU directives differ from national laws, as they must then be ratified and applied in very different contexts. In particular, Directive 2009/28/EC on renewable energy sources regards the final energy consumption in the EU: by providing a required target (20% of total consumption produced by renewable energy sources), the Directive aims to reassure investors and encourage technological development for the production of energy from renewable sources. Renewable energy definitions presented in Directive 2009/28/EC are, however, insufficient. According to the definition given by the Directive, renewables are characterized only by the fact they are energy not based on fossil sources. Renewable energies need to be differentiated among themselves on the basis of their different environmental impacts. This would allow planning for national strategies, priority support schemes and local planning giving priority to the less contaminating technologies.

To ease the burden on those countries which recently joined the EU – already engaged in adjusting their economic and regulatory systems, starting from an estimate of the level of energy end-use in 2020 and an assessment of the contribution of renewable sources to the mix in 2005, the target to be reached has been divided into two parts, one is the same for all countries, the second varies from country to country in relation to population and GDP.

The ETS system has then been revised in order to reach a greater reduction of GHG emissions in the most energy consuming sectors. From 2012 heavy industry is expected to contribute significantly to the achievement of the EU target of cutting emissions by one fifth more than in 1990.
The goal is obviously to combat climate change and promote the use of renewable energy sources through binding targets for member countries.
The first objective for the EU was to find a way to engage in the "post-Kyoto" period without waiting for slow global agreements: the European commitment was meant to represent an example for COP 15 in Copenhagen in December 2009, where the assumption was to be able to reach an agreement to combat climate change on the basis of the European experience. As is known, an agreement has not been reached in COP 15 but, nevertheless, the EU wanted to promote its unilateral commitment, so its target to reach a 20% reduction of its emissions by 2020 has been launched, bringing it to 30% by 2030 and 50% by 2050 (the baseline is 1990).

At present, work continues towards the 2015 summit in Paris, which is expected to launch a new global climate agreement to come into force from 2020. Paris is not the last resort, however, the V IPCC Report reminds us that we must act globally. Within a few years, if we want to avoid the dangerous threshold of the average increase in global temperature of more than 1.5-2°C compared to the pre-industrial era (the limit set to avoid catastrophic changes). Action has to be taken at all levels, local, national and continental; but to achieve the desired result the commitment must be agreed and delivered globally, in order to use all the levers to promote a low carbon development.

The path of the Convention on Climate goes in parallel

with the objectives for sustainable development of the UN, which should draw the lines of a more equitable and environmentally sustainable ?well-being? for the "Future We Want" in the world. In recent years we have seen CO2 emissions rise steeply, reaching 400 parts per million: the phenomenon of climate change has been caused by the industrial revolution based on fossil fuels occurred in the last two centuries in those countries we call "developed"; a development that has created enormous wealth and consumption, but also large disparities. Today, other countries are following the same path, and the level of GHG emissions has risen to dangerous levels.
To try to avoid the most dangerous levels, it is necessary for the emissions to diminish rapidly. The path must be initiated by the developed countries, in the framework of a common but differentiated responsibility. However, so far there has been much talking and little action. On the other hand, the fact that all the countries whose emissions affect the atmosphere must take the path of decarbonization is now recognized.

In recent years, renewable energies have made big leaps forward. From 1977, the cost of photovoltaics has fallen by 99%. It is also true that subsidies to fossil fuels continue: 544 billion dollars in 2012 alone, according to the International Energy Agency (estimated by default). Unfortunately, in recent years renewable energy has been attacked on multiple fronts: cuts to incentives, legislative barriers and new levies. The reality is that the transition will take place, but the interests of the most powerful lobby in the world could make it difficult and expensive, especially if governments do not assume a long-term perspective and do not act immediately with consistency.

1.6. The Europe 2020 strategy: the importance of energy choices towards an inclusive Europe

The European Union is currently engaged in a major effort to leave the crisis behind and create conditions for a more competitive economy with a higher employment rate. In this context, Europe's 2020 strategy aims to achieve a growth that is: intelligent, thanks to more effective investments in education, research and innovation; sustainable, thanks to ambitious CO2 reduction targets; and inclusive, being focused on job creation and poverty reduction. The strategy hinges on five ambitious objectives related to: employment, innovation, education, poverty reduction and climate change/energy.
It is therefore no coincidence that Europe's 2020 Strategy resumes the Climate and Energy Package targets (reduction of GHG emissions by 20% by 2020, etc.), formalized in Directive 2009/28/EC of June 5, 2009. This shows, as also emerged in the Intergovernmental Panel on Climate Change (IPCC) V Report (2013) the close relation between climate change, and therefore energy choices, and social impacts of environmental policies.
If economic growth in one part of the world and the disparities that have resulted so far also provoke imbalances in the use of natural resources and energy use, it is obvious that the transition to an efficient and low carbon economy entails the promotion of an equitable distribution of economic benefits and environmental costs in a context of solidarity.
For this reason, energy security must be guaranteed by policies aimed at:
- reducing the intensity in terms of the resources that we use and consume
- helping small enterprises and cooperatives
- promoting a diffused energy production

In this sense, the only way to bring down the global competition for natural resources – otherwise destined to worsen with greater environmental and social consequences – is to overcome energy strategies still based on the extraction of fossil sources, as an excessive dependence on gas and coal continues to expose consumers and businesses to harmful and costly price shocks, with all the related employment and social costs. According to the estimates published on the European Commission website: "Meeting EU energy goals could save €60 billion on Europe's bill for oil and gas imports by 2020 – essential for both energy security and economic

reasons" and "Further integration of the European energy market can boost GDP by 0.6% to 0.8%".
Over 600.000 new jobs could be created in the EY by responding to 20% of energy needs through renewable energy sources, and 400.000 more could come from the application of the 20% of energy efficiency target.

It is therefore significant that in its 2020 Strategy (which follows the Lisbon strategy); the EU has combined energy and social inclusion in the elaboration of its targets (20% of poverty reduction by 2020)
It remains to understand how to compel states to pursue these goals and by what means.

1.7. Roadmap 2050

The resolution of March 14, 2013 of the EU Parliament on EU's Energy Roadmap 2050 reaffirmed the fundamental role of energy efficiency and energy savings towards a more "European" approach to renewable energy.
Starting from the Road Map 2050 (developed by the EC on December 15, 2011), the Parliament points out the policies to be adopted to achieve the European energy targets towards 2050, confirming as a starting point Europe's objectives towards 2020 (the so-called "20-20-20" targets). Among the various directions given to the Commission, the EU Parliament has emphasized the need to adopt a strategy towards the "regional specialization of energy", in order for the regions to develop the most efficient energy sources in achieving the European targets for 2050, such as solar energy in the South of Europe and wind power in the North. Energy specialization (developing renewable energy depending on the characteristics of each EU country and its regions) is essential to contain costs and improve efficiency
The European Parliament also stresses how the transition towards a low carbon and efficient economy represents a unique opportunity in order to achieve sustainability, competitiveness and supply security in Europe.

The goal of an 80 to 95% reduction in GHG emissions compared to 1990, set by Communication COM (2011) 112 of the European Commission, is a technically and economically feasible target, as long as it is accompanied by the decarbonization of all electricity generation processes.
This was stated by the European Commission itself in the Energy Roadmap 2050 Communication (COM (2011) 885/2. However, in showing the possible "scenarios" of evolution of the energy system in order to achieve sustainability in the long term, the EC does not exclude new investments in the nuclear energy sector. From this point of view it is not clear how the increase in nuclear energy production can coexist with the encouragement of a system of low impact distributed generation based on renewable energy.
Beyond this, it should be noted that each scenario, despite the different combination of energy efficiency, renewables, nuclear, carbon capture and storage, highlights the fact that all investments in this direction will be rewarded in terms of economic growth, employment, security of energy supplies and lower fuel costs.

The main option is represented by energy efficiency, which plays a key role in each scenario, particularly for buildings, that will eventually produce more energy than the one consumed. The role of renewable energy sources is also crucial, as – in the most optimistic case (scenario High Renewable energy sources) – their development will allow to generate 75% of final energy consumption and 97% of electric consumption by 2050. Other priorities are, finally, the investments aimed at the improvement and modernization of the energy infrastructure, to be made now in order to avoid a higher cost of replacement in the future, and the reorganization of energy markets in view of a single integrated European market by 2014.
These concepts were emphasized in the Communication COM (2011) 112 - Roadmap for moving to a low carbon economy in 2050, which is part of Europe's 2020 Strategy for a smart, sustainable and inclusive growth in Europe. The Communication states that to reduce overall GHG emissions in the already mentioned percentages, a smooth and efficient transition would require a reduction in domestic emissions by 40% and 80% (compared to 1990) in 2030 and 2050 respectively. The analysis reveals that existing policies can allow to achieve or even exceed the target of 20% reduction in domestic GHG emissions by 2020 and indicates a roadmap with bands of emission reductions for certain key sectors (electricity, industry, transport, residential and services, agriculture) for 2030 and 2050.

Solar energy in Europe

The EU Directive 2009/28/EC lacks of a specific definition of solar energy, in particular in regards with the different types of solar plant that can be installed. A more comprehensive definition of solar energy would help to address the many problems that arise throughout Europe in relation to land use for energy production.
Taking the Italian situation as an example (but the same issues are to be found in many other EU countries, such as Romania, Bulgaria, etc.), the major issue related to the development of solar energy is the "wild" development of solar plants (both mega and "small" plants under 10KW) on agricultural lands determined by the strong incentives for solar power production. Other great problems that local authorities and citizens have to deal with are related to landscape preservation issues, in particular in rural and touristic areas. In the last years, European citizens witnessed the development of a great number of solar power plants, big and small, concentrated in one given territory, most of the time in rural areas, determining a drastic change in the designation of use of such land - from rural to industrial.

Defining as truly "renewable" only solar plants installed on roof or on other industrial plants might help to avoid abuses in solar energy development which are mainly driven by the attractiveness of profits offered by incentives and which are provoking growing conflicts around land use in several European countries.
Moreover, solar energy is the best source of energy to encourage the reinforcement and further growth of "energy communities". In energy communities (see Chapter 2 – Good Practices of Community Energy in Europe) citizens not only are energy consumers but – as individuals or as a community – they can become energy producers and providers. If a real change in energy production and distribution has to be produced to seriously tackle climate change – as this is one of the main priorities of Europe's 2020 Strategy –, the European Commission should foster the adoption of incentives in member countries, incentives to be differentiated by "priority sectors", giving the maximum priority to the development of solar power plants installed on roof and managed by communities and citizens.

In this regard, we believe that the diversification of sources of non-fossil energy based on the different environmental impacts they produce can highlight the advantages of producing electricity by direct conversion of solar radiation through the photovoltaic effect, as it is inexhaustible, non-polluting.
With regards to the production of energy from solar sources, the implementation of policies aimed at maximizing its strengths is urgent and necessary, in order also to reduce all the side effects of solar energy production, in particular of those impacts related to the use of agricultural lands and, thus, of job places.
On this purpose, in its energy strategy, EU should enhance and exploit the benefits of an integrated and functional development of solar power plants – fostering the distributed generation of energy and encouraging the design of solar plants which are to be integrated and functional to the urban design and privileging small or micro plants thought for direct consumption rather than for distribution and sale. These benefits can produce strong impacts on the development of "energy democracy" in Europe, but only if they are supported by coherent feed-in policies aimed at guaranteeing the public interest rather than private profit. In the solar energy sector the market relationship between producer and consumer should be minor, since the main objective towards energy democracy is the unification of the two figures: producer and consumer.

1.8. Conclusions and insights: a critical look

The EU has left Member States free to determine who the beneficiaries of the incentives (producers, distributors, users) should be and to determine which of the renewable energy sources, can be subject to incentives. We believe that, as regards the first point, renewable energy incentives should focus on consumers rather than on producers; with regard to the second point, the EU should establish which sources of renewable energy can be incentivized, according to their different environmental impacts

European citizens should not be considered as mere consumers, but as subjects that have the right to access energy, to be considered as an essential public service. It is therefore necessary to reduce the distance between production and consumption.

The benefits of solar energy in terms of environmental impact are unquestionable, given that it is an inexhaustible source, absolutely non-polluting as it is not based on fuel consumption (and therefore does not produce toxic gases), silent and in harmony with nature and with the habitat of animals and humans (unlike, for example, facilities for the generation of wind energy).

To impose, at the European level, a facilitation in terms of authorizations and an incentive system for the development of photovoltaic modules – using environmental and social criteria –, may be the first step towards the development of community energy and energy democracy in Europe.

The need to further strengthen the favor of the legislator towards solar energy is a key point to help PV technology, which is not yet mature but already competitive compared to other renewable sources.

In general, it seems that sustainable economic incentives and regulatory facilitations should be addressed directly to European citizens who wish to opt for mechanisms of onsite trade of electricity. A focus on a system of incentive-based energy policies for public support of the individual citizen would leave consumers free to choose the energy source with lower environmental impacts and break free from the industrial production of energy still based on high environmental impact extractivism.

In contrast, the negative environmental impacts of large-scale deployment of solar energy may seem to stem from bad policies and poor energy planning.

An example can be offered by the Italian regulatory framework in accordance with European directives. In the Italian case, one of the negative impacts of the diffusion of solar energy, the system of solar farms on agricultural land, is not due to inherent limitations of this energy source but to the incentive policies respond only to industrial principles and values. It is in fact worthwhile for farmers to rent or use their land to produce energy rather than for agricultural purposes.

In short, we can say that solar energy is the technology where it is easiest to implement policies aimed at: reducing the environmental impact of energy production (this does not apply to biomass and biogas), creating a balance between renewable energy as an impetus to new areas of production on the one hand and energy democracy on the other, by taking into account how the distribution of energy is, in the first place, an essential public service that must still be the object of public policy.


Grega Žorž

Photo on the left:
Presentation of Terme Snovik. One of Slovenian best practices (described later in a book).

~ CHAPTER 2 ~

CITIZENS' ENGAMENT IN ENERGY MANAGEMENT: COMMUNICATION AND PARTICIPATION STRATEGIES

2.1. Energy policy-making process: what challenges for citizen engagement?

Our world is facing a serious crisis. The breadth and complexity of the closely intertwined economic, social and environmental challenges is undeniable. Energy provides a good example, showing the interdependence of these, apparently unconnected, dimensions. Its production and distribution requires financial investment that affects the cost of the service and therefore the possibility for a significant part of the community of being able to afford the expense. In many EU states energy prices have increased over the years, often because corporate monopolies that took over substantial resources, with obvious **social** effects. The result has often been a disastrous management of natural resources. Bio-fuels for instance are leading to a rapid conversion of agricultural fields into industrial production in many developing countries. The phenomenon is encouraging the use of fields for the production of corn and soybean monocultures, a reduction of food availability and then, following market forces, an increase in food prices that large sections of the population are not able to afford. Poverty, social inequality and migration are just some of the social effects that result from inadequate energy policies. The multi-level dimension of energy management also affects the environment. If for instance, a diversified agricultural production is not preserved, vast areas of trees are felled, rivers are diverted, resources for energy production are over exploited and toxic wastes produced that are not properly disposed, the output is a high carbon footprint, due to a massive human consumption of natural resources that exceeds Earth's capacity to regenerate. An unhealthy environment makes for lower standards of living for people and in some cases, **environmental** conflicts in which organized groups of civil society oppose the reduction of the quantity and quality of public goods available. Economic, social and environmental effects seem to be more interconnected and onerous in fossil-fuel systems than in renewable based models. **Fossil-fuels** are concentrated energy such as oil wells, wells for the extraction of methane, coal mines. Even though fossil fuels are scattered all over the world, they are mainly concentrated in a few countries and in very limited areas. Since the distance between the sources and end users is significant, it takes immense plant and equipment to carry and move them: oil pipelines, gas pipelines, oil tanker, coal ships, and refineries. The mechanism for running alternative energy's production models is completely different. **Renewable energies** are distributed throughout the world: solar panels, wind turbines, geo-thermal pumps, biomass produced by agriculture or forestry's waste, tides, wave motions, large and small waterfalls. Micro-hydro and macro-hydro schemes can even be fitted on house drains. Small propellers at the end of the drain and connected to generators can produce small amounts of electricity. Not much, but multiplied by millions of litres of runoff might be a significant contribution to energy production. The prime condition for an acceptable result is the efficient use of energy. Fossil fuels are limited to three sources: oil, natural gas and coal. Renewable energy sources are in contrast many and varied: in some areas there is more solar energy, in others wind, geo-thermal and bio-masses energies. Renewable energy sources are different from one area to another and each zone must be appreciated in different ways depending on the resources available. Their value also lies in the possibility of being used close to the point where energy is generated. An energy network compensates, share and optimizes the different energies produced. Looking at fossil fuels, they need large plants, large areas of mining, large oil tankers with massive investments and financial power. Renewable energies are so much more powerful when they are deployed locally, directly used by those who control them and therefore require large investments, but divided and distributed among a myriad of users. The use of fossil fuels also requires capital-intensive activities, needs much investment and few human resources. Renewable energies are

based instead on high intensity work activities of all types, both manual and non-qualified work and highly qualified tasks for the design, maintenance, planning and management. A significant result for the current economic crisis Europe is facing is that the fossil fuel industries do not require much labour input and this means that they can not address the employment problem. According to Guido Viale's theory, even if tomorrow there was a government more favourable to environmental conversion, the centre cannot govern local areas, since efficient and environmental friendly energy management needs to be familiar with the local conditions and the needs of those who live in[1] .

It is evident that the complexity of energy production and distribution is based on the involvement of more issues and sectors. The effect of each issue is multi-dimensional and has impacts on many areas. The core point that emerges from this dense mesh is just the citizen.

Citizens' engagement in the energy policy-making process – Arnstein's theory

The set of elements considered makes the management of territories more and more complex. Local institutions can no longer overlook the link between energy and social issues arising from societies, which are more and more aware of the risks and opportunities related to energy. Public authorities are facing two dilemmas. The first is engaging stakeholders in the decision-making process or continuing with the ongoing model, hence preparing to face relevant social conflicts. The second issue linked to the first is that in some cases the decisions related to energy production and management lies on a decentralized level where businesses run the decision-making process far removed from people involvement. Despite institutions' hesitation, citizens' engagement seems to be the only way to collectively define accepted public policies and it is a valuable tool that many civil society organizations have begun to adopt on many fronts, especially in the field of resources management. Their action is based on the idea that possible solutions to break the deadlock rely on collective and citizen-based initiatives. Unfortunately this process is not as easy as it seems. The complexity of a bottom-up approach lies in the possibility for citizens to participate actively in the definition of energy policies, but energy is still considered a responsibility of public institutions that – together with corporations – define energy policies and strategies behind closed doors, neglecting the benefits of consultation, first of all the recognition of citizens' right to express their opinion regarding the management of public resources and to participate in the processes that follow.

In order to understand the limits of this approach, it is useful to consider the different levels of citizens' engagement. According to Sherry R. Arnstein's theory[2] , there is a critical difference between an empty ritual of participation and the real empowerment needed to affect the outcome of a process. Arnstein claims that participation without redistribution of power is an empty and frustrating process for citizens. The "ladder of engagement" conceived by him starts with the bottom rungs: **manipulation** and **therapy**. At these levels, effective participation is not possible since it is a contrived process that just simulates genuine engagement. The real objective of this rung is not to enable people to participate in planning, but to enable powerholders to "educate" the participants in supporting their proposals. During Cinergy's Workshops, this kind of conduct was ascribed to private companies that get public approval thanks to effective marketing strategies able to stress economic benefits and hide social costs.

Next steps towards a real participation are **information** and **consultation** that take place when citizens can hear and be heard, even though they still lack the power to ensure that their views will be heeded by public authorities. When participation is restricted to these levels, there is no assurance of changing the status quo. At the upper level, **placation**, stakeholders have the power to advise, but the right to decide still lies in powerholders' hands. Unfortunately, the state of participation in most European countries seems to be focussed on the placation rung, since public authorities seem to accept and take into account citizens' opinions, but they are not truly committed in turning community/ citizen proposals into feasible projects. "After tens of demonstrations and meetings with public authorities, smokestacks are still rising up from our land": this is the common feeling emerged between the European

1 Guido Viale, presentation of his book "The Ecological Conversione. There is not an alternative", shared on https://www.youtube.com/watch?v=MB5yC37Kmq4

2 Sherry R. Arnstein, former U.S. Department of Housing and Urban Development (HUD) official, in "A Ladder of Citizen Participation," Journal of the American Planning Association, Vol. 35, No. 4, July 1969, pp. 216-224

participants in Cinergy's national focus groups.

Even though energy production and distribution in Europe is still far from climbing on the higher rungs of the "ladder of engagement", it is useful to explain them in order to identify the goal that should be achieved in Europe in terms of participation. Further up the ladder we can find levels of citizen power with increasing degrees of decision-making influence. Citizens can engage in partnerships that enable them to negotiate and engage in trade-offs with traditional powerholders. At the topmost rungs we find **delegated power** and **citizen control**, where citizens are near to – or have already achieved – a full managerial power.

A few examples of this high level of participation are fortunately starting to emerge throughout Europe, thanks to innovative forms of citizens' engagement such as Melpignano community cooperative, that is a cooperative community company that aims to promote, develop and implement a widespread network of photovoltaic systems on public and private buildings of the municipal territory[3] . Beyond these examples that lead the participation of citizens to the highest rungs of the participation ladder, the level of citizens' engagement is still quite low in Europe. The main cause of this failure is that public institutions often allow people to express needs and proposals, but in reality the opportunities and demands expressed from the bottom are not really taken into account in the definition of energy policies. There are numerous cases of plants installations that have been opposed by citizens over the years, such as in Italy. In the town of Civitavecchia, the local community protested without any result, in order to prevent the energy produced by a local plant together with a risky environmental pollution, could lead to a choice between the right to health and right to work. In Civitavecchia, as well as in other European cities, organized groups of the civil society fighting against dangerous risks for the ecosystem have run strong environmental campaigns in order to take back the right to decide the fate of their community and the proper use of its resources for the energy production.

Benefits of public engagement

As already said, the current situation in Europe, in relation to communities' and citizens' intervention in energy decision-making processes can be placed on the placation, consultation and information rung of participation, since citizens begin to have some degrees of influence but still closer to tokenism[4] rather than true participation[5] . An example of the placation strategy is the "Model Cities advisory and planning committees" model[6] . This model allows citizens to advice or plan but retains the right for powerholders to judge the legitimacy or feasibility of the advice.

Despite widespread resistance, citizens' involvement can lead to many benefits. First of all it increases citizens' awareness of the impacts of energy production and increases their support for renewable energy projects. Furthermore, bottom-up participation speeds up processes, when stakeholders are at the same time projects' recipients and planners. Resources are also used more effectively, producing quality and efficiency, thanks to the skills and know-how stakeholders may bring in the participation process. Civil society organizations offer a wide range of experience and high standards of knowledge, providing citizens with necessary information for a better understanding of energy strategies adopted by institutions and offering possible alternatives. Their engagement also shrinks the gap between local communities and institutions. People who live in areas where an energy project is planned to be created try to preserve the environment and the available resources against exploitation and speculation, avoiding possible causes of conflicts: this is an emerging added value of society-based energy policies: they are the direct expression of local areas instead of being a top down decision bearing down on them and are able to identify and address energy issues according to local needs.

3 The peculiarity of this initiative that makes Melpignano the first experiment of its kind in Italy, is that citizens adhere to the cooperative promoted by the municipality and thus become, as members users, owners of photovoltaic systems that will be realized for equipping homes and businesses of energy from renewable sources. For more information visit: http://www.coopcomunitamelpignano.it/

4 A perfunctory gesture toward citizens' engagement in order to create an appearance of participation

5 A bottom-up process that empowers people giving them policies control, delegated power and the chance to get in a partnership with other stakeholders

6 Richard T. LeGates and Frederic Stout, "The City Reader", fifth edition, Urban Reader Series, pag.244

The role of communication

Following the above considerations, the degree to which citizens are actually engaged depends largely on two factors: the quality of technical assistance they have in articulating their priorities; and the extent to which the community has been organized to press for those priorities. The first aspect refers to the set of tools that enable citizens to better understand energy issues and to make a conscious choice. More effective technical assistance that is not only a support for structures, equipment or funds, but also an effective flow of information from institutions to citizens, is an essential condition to raise awareness and get people involved in collective initiatives. A good communication system providing information, establishing new relations between all attendees, relating institutions to citizens, educating for a sense of public engagement, are the main features of the high rungs of participation described by Arnstein. Communication plays a central role not only in shaping the understanding of the natural world and the role of humans therein, but also in structuring the terrain where diverse points of view are negotiated. Thanks to clear information the public are becoming increasingly, even though slowly, involved in decision-making processes.

Community and co-operative energy (CCE) model

The degree of citizens' engagement, of course, also depends on the extent to which the community has been organized to press for its priorities. Many civil society organisations call on institutions to introduce policy measures that lead to a formal guarantee of the treatment and support for community and co-operative energy (CCE) schemes. They are the best example of participation and might be placed at the highest level in Arnstein's ladder. The CCE empowers communities to own and democratically control energy in appropriate ways, strengthening the role of civil society in the definition of energy policies and strategies. In order to guarantee an effective engagement and participative work, citizens first of all need to get in contact with local groups that act to give everyone an equal opportunity to own and control shared energy assets democratically. At the moment the engagement of community energy in the policy-making process takes many forms:

Communities take part in consultation, and perhaps find ways to volunteer or offer support;
A project seeks engagement through a money-raising share offer: investors and citizens form a community of interest around the project;
A project actively seeks local engagement. Civil society organisations can join a management group, with long-term community benefit and a greater degree of ownership. They agree to share planning and decision-making responsibilities through such structures as joint policy boards, planning committees and mechanisms to resolve impasses;
A community-based organisation, such as a development trust or residents' association, starts the process, raises the resources, designs and develops its own project, and owns the assets, thus receiving the maximum benefit.

What strengths?

The benefits coming from the participation of citizens in the definition of energy policies through the intervention of the community energy are numerous. They not only generate renewable energy, but they also build awareness about environmental issues and promote post carbon reduction. Many CCE projects visited by Cinergy's participants during the project's workshops in Bucharest, Varna, London and Ljubljana are effective examples of shared management and sustainable use of resources. Their link with the local area ensures that energy projects are closer to the needs of local communities and their territory. Through alternative energy production based on the use of renewables, community energy brings diversity to the traditional energy mix, building resilience and reducing dependence on imported fuel. Locally-owned energy schemes attract investment from new sources, such as individual and community investments that, given the insufficient level of public investment in alternative energy infrastructures, are very much needed.

CCE help governments to strengthen civil society and involve citizens. In this sense CCE make public projects likely to succeed thanks to a broader public support. Community initiatives indeed provide citizens with both a say and a stake in appropriately-sited renewable energy projects. Since participants develop and own a power plant that they support financially and operatively, benefiting directly from the energy produced and deciding together the way to use common resources, CCE boost a sense of community, purpose,

pride and achievement. As cooperative members, the participants are involved in the governance structures and have a control on the profits' allocation and on the applied prices. They act also as investors and consumers and have access to transparent information on the management of the cooperative and on the green nature of the energy produced, which is a central issue in consumers/investors concerns. Cinergy's focus groups report how a greater community awareness on environmental issues and positive behavioural changes characterize those territories where CCE are based.

And weaknesses?

Even though the CCE generate renewable energy, increase energy efficiency and reduce the gap between public authorities' policies and citizens' willing, community energy is still the exception rather than the rule in most European energy policy systems. Both European and National energy regulatory systems lack of a comprehensive and integrated framework of support for CCE schemes. Mainstream commercial scale energy is backed by the existing regulatory structures. It is extremely difficult for new entrants to compete alongside the "usual" players. Their mission and action need to be regulated though specific rules. CCE are specifically a hybrid of commercial and social dimensions, since they are both a shared and collective system of profit-making and socially and environmentally motivated. Their projects are often designed for small scale commercial schemes that are still not adequately regulated by European and National laws, that treat CCE as big energy companies.

The energy sector, renewables included, is currently dominated by corporations. Voices thus rose to question the corporate monopoly and the appropriation of common goods for private interests. It is in the light of these reflections that CCE emerged in many European countries in an attempt to counterbalance this corporate hegemony and to foster the appropriation of local energy resources by citizens with an objective of energy sovereignty. Community energy tackles the energy issue in a systemic perspective, taking up not only environmental, but also social and economic challenges by offering an alternative business model that promotes citizens' involvement in the decision-making processes, a sustainable way of energy production and short circuits between production and consumption.

Community owned renewable energy sources placed on rooftops. Best practice example from Muswell hill, London.

2.2. EU's communication and participation strategy: almost there but still not enough

A good institutional communication strategy is the most important condition to guarantee a real and effective participation of citizens and communities in the definition of energy policies, as it provides information, it contributes to the establishment of new relations between all stakeholders, it connects institutions with citizens, it provides education aimed at fostering a sense of public engagement. Usually, public authorities create virtual spaces on the web to present their strategies and to encourage public debate. In this sense the EU has quite effective communication tools that make its institutional activities clear and accessible to all European citizens, with the objective to reduce the gap between the European and local levels of engagement. The openly stated aim of the EU's "Information and Communication Strategy" is indeed to "boost awareness of the Union's existence and legitimacy, polishing its image and highlighting its role"[1] . Furthermore, the Commission adopted an Action Plan[2] on 20th of July 2005 in order to improve EU's communication ability and the result is that all documents and institutional communications on EU's energy policies uploaded on the EC website are clear, accessible and complete. For instance, the European Union's ten-year growth strategy launched in 2010 – Europe 2020 – has been explained and launched in a specific area of the European Commission's website where it is possible to download all documents and reports and keep updated on news and European initiatives.

Your Voice in Europe

However, citizens still don't feel fully involved in EU's policy-making processes, so there is an urgent need to shift the emphasis towards communication, to facilitate web navigation and to ensure that all webpages and official documents are truly multilingual and fully accessible. Your Voice in Europe[3] is the European Commission's access point to a wide variety of open consultations, discussions and other tools aimed at fostering European citizens' active role in the European policy-making process. Thanks to this access point, citizens can participate in consultations, have the chance to express an opinion on EU policies and influence their direction, but also discuss the main issues of the day using interviews with EU representatives. Unfortunately, Your Voice in Europe has only a single access point on the EC's website and therefore the majority of European citizens are not aware of its existence and of the possibilities offered by this services. Therefore, it should be possible to access the platform from different webpages and, especially, from local authorities' websites. Such a communication tool could be, in fact, decisive in creating a stronger connection between citizens, local authorities and central EU institution. At the moment Your Voice in Europe is translated and available in 24 languages, but its contents are the same. If local specific local sections of Your Voice in Europe were created, local authorities – as they are naturally the closest institution to citizens – could manage to actively involve citizens in EU policy-making, where this process involves local issues, showing at the same time how European decisions find application at the local level. These changes are an effective way to reach the goal of fostering a wide variety of discussions and provide an effective information exchange.

The Covenant of Mayors and SEAP system

Clear and accessible information plays a key role in the EU's communication efforts in the field of energy strategies. The dissemination of the Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (RES) on many different websites is a good example of effective communication, since it provides citizens with the necessary information on EU's guidelines and on the targets to reach in order to meet the objectives set for National governments. The communication, however, is not a sufficient tool to ensure the real participation of citizens, because it is unidirectional, thus it does not allow them to choose and express their opinions on a given decision. In the framework of Cinergy's focus group rounds, it has emerged that the EU has actually triggered a few effective participatory tools in view of reducing the gap between those who hold the decisions

1 Communication from the Commission to the Council, the European parliament, the Economic and Social Committee and the Committee of the Regions on an Information and Communication Strategy for the European Union [COM(2002) 350 final/2]

2 Action Plan to Improve Communicating Europe by the Commission - [SEC(2005) 985 final]

3 http://ec.europa.eu/yourvoice/

and their direct and indirect recipients.

After the adoption, in 2008, of the EU 2020 Climate and Energy Package[4] , the European Commission launched the Covenant of Mayors[5] to endorse and support the efforts deployed by local authorities in the implementation of sustainable energy policies and to engage citizens in their definition. Local governments, because of their proximity to citizens, are in fact more likely to meet the European challenges with the direct involvement of their citizens and communities. Europe's goal is to achieve a 20% reduction in CO2 emissions and 20% of energy consumed to come from renewable sources by 2020. The Covenant of Mayor's programme requires a Sustainable Energy Action Plan (SEAP) to be submitted by the local authority within two years after joining the programme. The SEAP includes a baseline of energy consumption and the associated carbon emissions. The action plan includes initiatives aimed at buildings, transport, district energy and lifestyle changes. The Covenant of Mayors regards actions at local level that fall within the competence of local governments, which should work in most, if not all, of their activities, as consumers and service providers; planners, developers and regulators; directors; producers and suppliers. Local authorities provide the human and financial resources necessary for the implementation of the activities planned in their action plans. They are also directly responsible for the active involvement of citizens and local stakeholders in the process, as well as of the organization of dissemination days, since a high level of participation is crucial to ensure the success of the initiative in the long term.

The aim to make the process democratic as well as participatory is clearly stated in the EC's guidelines[6] , according to which "decision makers have to ensure that the SEAP process is owned by the local authority and the residents". Actions and practices suggested go from briefing major political groups with informative notes on the benefits and resources needed to implement the SEAP to informing local communities on the causes and effects of climate change along with information about effective and practical responses. The underlying concept of this participatory system is that the starting point to stimulate the necessary behavioural changes is the involvement of all stakeholders, whose views should be known by administrators before detailed plans are developed. Stakeholders and citizens should take part in the key stages of the SEAP elaboration process: building the vision, defining the objectives and targets, setting the priorities, etc. The engagement of citizens during the SEAP's definition process is also an evaluation criteria used by the EC. All stages are needed to turn the information process into an empowering action that enables citizens to take responsibility and helps them to make relevant decisions concerning the area they live in. According to the EC's guideline on SEAP, stakeholders could have three essential rules:

- "proposal" since they can participate in the elaboration of the plan providing valuable inputs and data, sharing their knowledge and contributing to the definition of a common view on the city's future;
- "implementation" by carrying out the measures under their responsibility;
- "control" by making pressure and lobbying political authorities to approve the plan and fulfill their commitments.

The downside according to Petts and Leach's theory

Cinergy's 3rd round of national focus groups and 3rd Transnational Workshop (WS3) focused on the EC communication strategy on energy, referring to Judith Petts and Barbara Leach's theory[7] which suggests several participatory tools that can ensure growing degrees of involvement. While brochures, newsletters, advertisement, exhibitions, site visits are useful unidirectional tools meant to inform and educate people, telephone calls, interactive websites, public meetings, teleconferences, surveys and questionnaires, staffed exhibitions, deliberative polls are useful to get citizens' and stakeholders' feedback. Nevertheless, these tools can raise stakeholders' awareness about the actions adopted and enable them to get involved in actions' implementation, but they do not guarantee citizens' involvement in the definition of these policies and actions. Real involvement starts instead with consultations, carried out during workshops, focus groups, forums, open houses – to be extended for institutionalised participation through community advisory committees, planning for real, citizen's juries,

4 http://ec.europa.eu/clima/policies/package/index_en.htm

5 http://www.covenantofmayors.eu/

6 http://www.eumayors.eu/IMG/pdf/seap_guidelines_en.pdf

7 Judith Petts, Barbara Leach, "Evaluating methods for public participation: literature review", Bristol Environment Agency, 2000

all means that can really provide stakeholders with the necessary tools to define the action plans and their implementation strategy.

The Covenant of Mayors and its implementation tools seem to follow this scheme, since they provide effective tools for citizens' engagement in the definition of national energy policies. The downside of this ambitious initiative is represented by its monitoring and evaluation systems. From an analysis of the reports that public authorities have to fill in, it seems that EC focuses more on the quantitative results related to the reduction of emissions than on the quality of the tools used to involve citizens and the civil society organizations such as NGOs in the energy strategy definition. Cinergy's focus groups and workshops revealed that, unfortunately, in partner countries (Italy, UK, Bulgaria, Romania, Croatia, Slovenia) the empowerment phase rarely or never follows the information stage and that, furthermore, often citizens are not adequately informed by national and local authorities on the ongoing energy projects. The level of engagement provided by authorities through the SEAP's system doesn't fit with real participation, since it is based only on consultation, without any opportunity to go beyond the information phase. Despite the democratic principle that says that governments should listen to the community before making decisions that may affect it, in reality the decisions are taken behind closed doors and beyond a brochure or a flyer there is no real commitment of national and local authorities to involve their citizens.

Challenges for the future

A formal agreement with local NGOs, especially the ones dealing with environmental issues, but also an audit or a report drawn up by the social partners involved could be a valuable tool to give force to local authorities' accountability and control systems. Energy issues are often seen as a complex area by local communities: for this reason the help of specialised actors (NGOs, Civil Society Organisations, professionals) can be very valuable to boost local communities' know-how in the energy field, but also to identify tools to improve communities' quality of life, their engagement in public issues and their awareness on the advantages of belonging to the European Union. In this sense, the community energy model examined by Cinergy project is a suitable example of empowerment, since it encourages people to act co-operatively to create sustainable communities and to give each citizen an equal opportunity to control shared assets in a democratic way: this is energy democracy. The process that can be activated by "energy communities" goes from the bottom to the top of the energy management system, since it's their prerogative to decide HOW to produce energy and only in second place do they request the cooperation of their local authorities to support them across all policies and finance tools in a public, long term and financially sustainable way. A democratic Covenant of Mayors cannot therefore exclude these stakeholders from the decision-making process, or the goal of improving citizens' participation will not be reached.

During the project's focus groups and workshops the participants agreed that the EU provides citizens with valuable information on environmental and energy issues and that The Covenant of Mayors is seen as a suitable chance for citizens to participate to the energy policy-making processes. At the same time, it appears imperative to introduce monitoring and control mechanisms led by EU to assess the quality of citizens' involvement in the definition of SEAPs in the framework of the Covenant of Mayors.

Finally, there is another relevant issue that needs to be addressed by the EU: it is imperative to build a European legal framework that both recognizes the existence of community groups and guarantees their rights could be a first step towards a participatory, secure, clean and affordable energy scenario. As local authorities are part of the EU's system, they would be better placed to improve and boost citizens' engagement in the energy management if Union will provide them with legal and political instruments. This challenge would reflect moreover the principle of subsidiarity, defined in Article 5 of the Treaty on European Union, according to which the orientation of the EU as a system composed of different national countries, has to be identified at the transnational level, but decisions have to be taken as closely as possible to the citizen and that constant checks are made to verify that action at Union level is justified in light of the possibilities available at national, regional or local level. Specifically, it is the principle whereby the Union does not take action (except in the areas that fall within its exclusive competence), unless it is more effective than action taken at national, regional or local level.

2.3. National energy policy: civil society organizations call out government's plans and private monopoly

Citizen participation at the European level seems to be supported by adequate information and sufficient means of action, although there is lack of specific norms that promote and support advanced forms of participation such as energy communities. The status quo in each partner countries of Cinergy is instead rather varied. While in some countries the communication on energy policy is clear, transparent and accessible, in other countries citizens grapple with many difficulties in finding adequate information to understand the energy policy of their own country and then act to influence it. The official websites of the relevant Ministries are in some cases very vague and the bodies in charge of informing and consulting the communities and then transmitting its positions at both local and national authorities are often worthless. It is clear that in countries with an extensive information flow and an adequate financial support scheme, citizens not only participate actively in the energy policy-making process, but they are also part of it by producing clean and affordable heat and electricity through energy schemes such as community energy.

Some good practices from the North of Europe

The advantages of alternative energy production and management by energy communities are: economic, since they produce an income stream for communities and retaining funds in the local economy; environmental as a tool to tackle climate change; social because they are seen as a potential for local employment and an improvement for local resilience from independent supplies, increasing quality of life and caring intergenerational justice. In the UK for instance the government boosts community energy and has adopted in 2013 the Climate and Communities Action Alliance (CCAA) paper on "A Community Energy Strategy for the UK – A Community Perspective[1] ". At the core of the report is the need for a "long-term consistent legal and regulatory framework" if community energy is to thrive. The commitment made by the UK to support community energy is also showed by the May 2014 coalition agreement that encourages community-owned renewable energy schemes[2] . In line with this position, the UK government has provided a separate community energy tariff that in reality is still not the preferential one. Additionally, the government has adopted some measures to improve access to finance for communities, eg. the Local Energy Assessment Fund[3] (LEAF) and the Renewable Heat Premium Payment[4] (RHPP) that offers a huge grant for renewable heating. These support schemes foster citizens' involvement in energy policy-making and stimulate the diffusion of innovative initiatives such as "Green Community Buildings" in north-east England [5]. It is a social enterprise, so their profits are recycled back in the Green Community Buildings Endowment Fund, which is available to financially support the creation of sustainable community buildings. "Green Community Buildings" also manages the only UK Energy Performance Benchmark database specifically for community buildings, which has been made available for widespread and free use.

Another valuable example is represented by "Repowering London" , which is a not-for-profit organisation specialized in facilitating the co-production of community-owned renewable energy projects. Its team provides citizens with technical, legal and administrative expertise, offering project management services and supporting access to a network of potential investors. The output of its action is that Repowering London [6]has installed 132kWp of community owned renewable energy so far, saving almost 60 tonnes CO2 each year. As already stressed in this publication, the core tool for citizen engagement is a good communication and partnership between local community and authorities.

1 CCAA, "A Community Energy Strategy for the UK – A Community Perspective", 2013

2 Department of Energy and Climate Change, "Community Energy Strategy: Full Report", 2014, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/275169/20140126Community_Energy_Strategy.pdf

3 https://www.gov.uk/government/publications/decc-local-energy-assessment-fund-leaf-evaluation-report

4 https://www.gov.uk/renewable-heat-premium-payment

5 Department for Communities and Local Government, "Strategic Environmental Assessment of the Revocation of the North East Regional Strategy", 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/153716/Strategic_Environmental_Assessment_of_the_Revocation_of_the_North_East_Regional_Strategy_-_Post_Adoption_Statement.pdf

6 http://www.repowering.org.uk/

An example of the effects that this link might produce is EN10ERGY in the London Borough of Haringey[7] , which has installed solar PV panels on local community buildings in Muswell Hill in order to improve the energy efficiency of local schools and social housing in more disadvantaged areas of Tottenham. Even though the participation of citizens in the UK's policy making seems to meet the necessary requirements, at the same time energy communities still encounter limits and difficulties in United Kingdom as well as in the other partner countries of Cinergy.

Contributions from the East

Social actors in the North of Europe as well as in the South struggle for a legislative, political and economic framework that aligns to this. It is in the line of these reflections that community energy and cooperatives emerged in some European countries in an attempt to counterbalance the corporate stranglehold and to foster the appropriation of local energy resources by citizens with an objective of energy sovereignty (Coen, 2010). Energy communities implement a bottom-up and collective dynamic based on the active participation of citizens and the involvement of multiple stakeholders (local authorities and municipalities, local private economic players, cooperatives, civil society organizations, etc.). This is the key issue that emerged during the project's Focus Groups and Transnational Workshops: the meaningful difference between private company management driven by profit and related to a deregulated system of incentive and the community perspective which is tackling the problem in a systemic perspective, taking up not only energy and environmental, but also social and economic challenges by offering an alternative business model that promotes citizens' involvement in the decision-making processes, a sustainable way of energy production and short circuits between production and consumption.

In Romania, society and grassroots organizations have tried to raise citizens' awareness on energy and climate policies and have made many efforts in order to boost a democratic decision making-process, proposing also environment friendly solutions as alternatives to existing tools for energy production. Cinergy's partnership, nonetheless, strongly believes that this is still not enough. The information provided by the Romanian government and governmental bodies on national energy policies lack of transparency and of a clear vision on long term national energy policies. The result is a low public interest and participation in energy discussions, even though energy prices are far from proportionate to the quality of the service. Huge energy companies hold – de facto – a significant monopoly in the energy market in Romania, which brings many advantages, while small energy communities suffer from defamatory campaigns, according to which renewables provide a more expensive, not easily accessible and unstable electricity supply. Asociatia Prietenii Pamantului faced these obstacles when founding the Local Energy Planning Committee (LEPC) with the support of Brusturoasa Town Hall. The LEPC gathers informal leaders from various areas of the town in order to: encourage communication among neighbours; collect complaints regarding energy issues; disseminate information on public lighting and other public services; propose cost effective measures to the Local Council to reduce energy consumption through increased efficiency. The main benefit produced by LEPC is to facilitate the dialogue between citizens and their local authorities and encourage people to clearly express their needs in terms of energy. The LEPC processes the information collected during public discussions with citizens and comes to the Local Council with proposals and a report on The Energy Profile of Brusturoasa.

Citizens' engagement in the South

Local communities around Europe seem to reach impressive goals and fill the gaps of public authorities' action. Mariana Mazzucato, Professor in the Economics of Innovation in the Science and Technology Policy Research centre (SPRU), at the University of Sussex, in her book "The Entrepreneurial State: Debunking Public vs. Private Sector Myths[8] " develops a critique of the theory that government intervention is only justified in case of "market failures", revealing the inability of this approach to capture the active role that States play in leading – rather than following – radical technical change. "*An important reason why the concept of market failure is problematic in understanding the role of government in the innovation process is that it ignores a fundamental fact about the history of innovation: not only has government funded the most risky research—whether applied or basic—but it has indeed been the source of the most radical, trail-blazing types of innovation. To this extent it has actively created markets not just fixed them*"

7 http://en10ergy.co.uk/

8 M. Mazzuccato, "The Entrepreneurial State: Debunking Public vs. Private Sector Myths", Anthem Press, 2013.

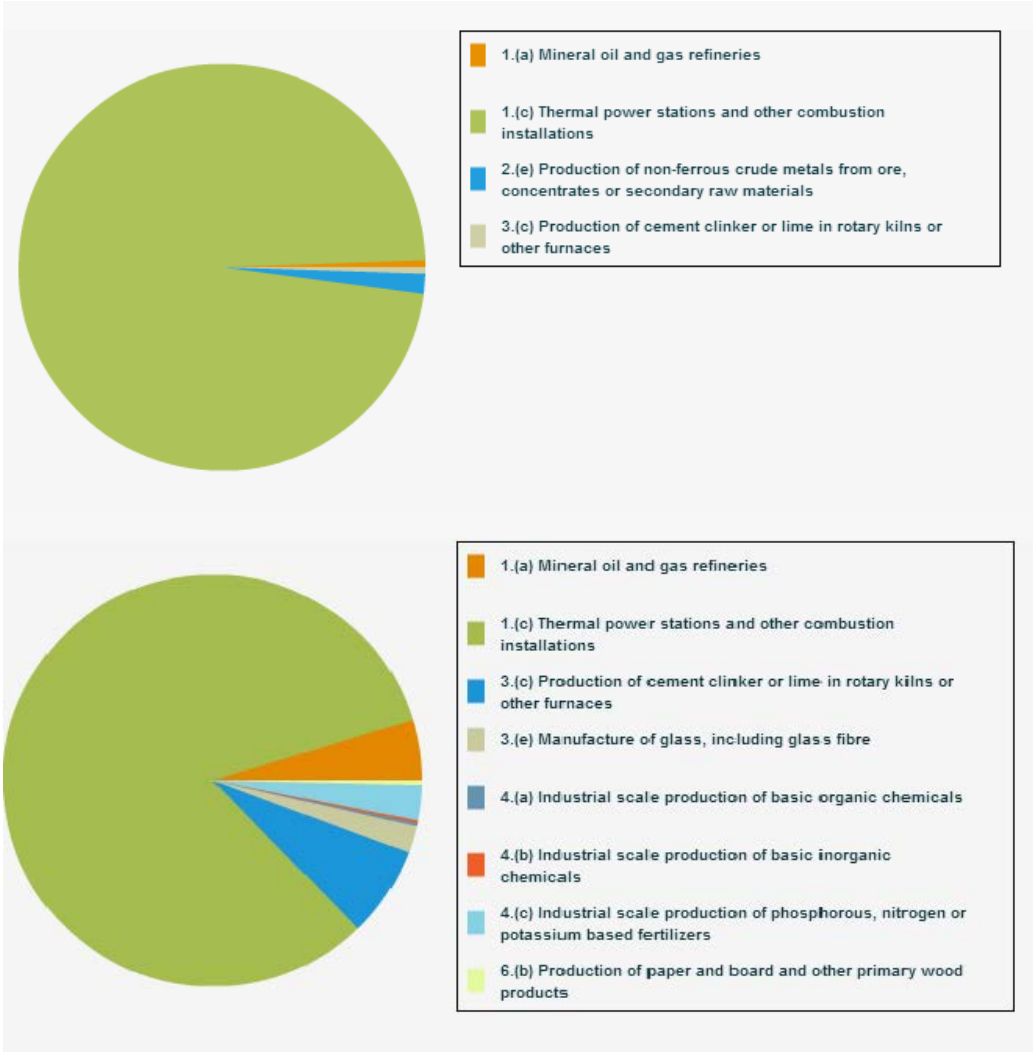
she states. Far from the often-heard criticisms of the State potentially "crowding out" private investments, such bold "mission-oriented" public investments (amongst decentralized public actors) created new opportunities that better response to the real need of citizens, National and local authorities' action seems to be often far from this approach. In some cases the energy issue is an exclusive affair of the government since it is a crucial economic sector attracting massive internal and external interests. Because of those positions and orientations, public authorities instead of supporting bottom-up energy production and management system, often built up many barriers that have jeopardized the development of energy communities throughout Europe, as emerged during the 4 rounds of National Focus Groups held within the framework of Cinergy: difficulty to raise sufficient funds, difficulty to find appropriate locations to set up the facilities, the configuration of the pre-existing energy market and poor recognition of cooperative models.

One of the main obstacles to citizens' participation in several partner countries is represented by bureaucracy. The bureaucratic procedures necessary to open even a micro energy plant in Italy, Romania and Bulgaria is almost as complicated as starting a macro energy plant, so single individuals and citizens are discouraged because it could take them more than a year to obtain all the permissions only for their single private solar panel. The subsidy system does not help either; in the last 10 years the Italian subsidy system for renewables has been changed over 5 times, and investing in the adoption of solar panels on private roofs is perceived as very risky, because incentives could be cancelled or decreased without notice at any time. Something is starting to change but, up till now, only those who produce energy in a plant bigger than 1 MW can directly sell their energy, trying to face lack of adequate financial tools. Banks do not likely give loans to small cooperatives or communities and public authorities usually outsource renewable energy projects only to big and well-established energy companies, leaving smaller cooperatives and community owned energy companies without an adequate financial support.

Citizens come together in cooperatives or purchase groups producing their own energy, but they often do not get to sell that energy or to consume it directly, since part of the energy production must be sold to the national grid. The bizarre result is that communities or citizens that produce in Italy clean and sustainable energy actually consume energy produced by others, in most cases traditional way, carbon-based. Things are not likely to change while citizens are not well informed on the production, consumption and management surrounding energy. With the exception of some local authorities, at the moment, public agencies do almost nothing to inform citizens on the possibilities for alternative energy ownership. At the same time the political instability and the energy markets leave Italians scared and mistrustful, so they prefer to continue paying conventional energy companies, even if they do not comply with ethical and environmental standards. Despite many difficulties for citizen engagement, more positive experiences are appearing in Italy as well as in the rest of Europe, offering a new vision and practice in energy issues. They are most frequent in small cities, where the distance between citizens, authorities and private companies is limited. Especially NGOs and local committees play the role of watch-dog for environmental issues by denouncing increasing conflicts between organized group of citizens and the public authorities or/and private companies because of the dangerous effects of their energy initiatives on environment. Old-technology power stations fuelled by coal, oil or gas are increasingly contrasted with unrestrained development of renewables that are often anything but green. Bizarrely, incineration in Italy is considered renewable energy and both solar and wind energies are usually produced in huge power plants imposed on communities. More: a lot wind farms have been stopped because the grids often don't handle it.

Connecting and selling troubles all over Europe

During Cinergy's 4th Transnational Workshop in Slovenia, participants highlighted the limited capacity of citizens to influence energy sector policies. In several partner countries (Italy, Bulgaria, Romania), electricity produced by cooperatives, SMEs and energy communities has to be sent to the national electricity grid, preventing them to consume directly the energy they produce. At the same time most of local communities face many problems with the connection to the energy grid and this problem prevent them from being energetically independent. The situation is not better for those who want to sell their energy in the free market. Public tenders and procurements are, in most cases, based on the criteria of the lowest price, not considering environmental and social criteria in the selection. The routine sees the main energy companies



Graphics left:
SOx (above) and NOx(below) pie charts for Bulgaria big industrial pollutants. A seen on a pie chart Bulgaria main pollutants are big thermal powerplants.
Source: E-PRTR European database.

win the tenders, as scale economies allow them to outmatch any small competitor. Just few kilometres away from Slovenia, in Croatia, the engagement of citizens in energy policy-making seems to be something new, even if, in recent years, some initiatives of cooperation in energy production are slowly emerging.

It is clear that in countries where there is no real involvement of citizens, the institutional decisions do not often have a democratic consensus and the communities that are trying to become economically independent face many troubles. The reason is not only the negligence of the institutions, but also the financial and political weight of energy lobbies that often prevent individual citizens and organized groups from competing. The European renewable energy sector has been rapidly dominated by corporations. Civil society and grassroots organizations raised their voices to question the hegemony of corporations and the appropriation of common goods for private interests. Their request is for governments to create simple "market access" rules for community energy and social enterprises.

The situation described emphasizes the close link between renewables, legal, political and financial support of public authorities, the monopoly of big energy corporations and companies, the importance of clear information on the production of energy and the empowerment of citizens for their participation in the production and management of energy in European countries. While the national and local institutions often adopt policies that largely favour energy lobbies and information on possible alternative forms of energy are often unclear, citizens are floating in an unsteady sea where the only salvation islands are organized forms of community and the NGOs. So if the evidence is that citizen participation and community energy are still the exception rather than the rule in most of the European countries, on the other hand the actors of energy communities build participation, self-management, solidarity in the local energy production and management.

2.4. Requirements and proposals for a democratic energy management

During the focus groups Cinergy partners identified possible proposals that would encourage the participation of citizens in the definition of energy policies. It is believed that in order to properly implement these recommendations, it is necessary not only the action of national governments, but also the support of European institutions that are requested to carry out a legal framework that pushes states to recognize the benefits of participated forms of energy production and distribution, guaranteeing adequate legal protection and financial support, such as a facilitated access to credit. Civil society has been described as the recipient of the energetic policies, but also as a potential social player that through active participation in decision making can contribute not only to production but also to the management of renewable energy. Civil society organizations have a key role to lead people from the lower rungs of the ladder engagement to the top, as they contribute to the dissemination of information and the construction of an education on energy resources. The know-how generated often has a national dimension, covering the policies taken or not taken by their governments, but it reaches also the European level gathering the opportunities from outside. All actions combined empower people providing them with the chance to produce energy matching local community's interests, but also the engagement in the decision-making process.

The focus groups of Cinergy's projects indentified specific challenges that a synergy between European institutions, national governments and civil organizations should endorse in order to support citizen participation. Most of the proposals can be implemented with only minor changes to existing operating frameworks, while creating public awareness benefits, reaching underserved areas and populations, leveraging community and financial resources, and building capabilities.

Proposal 1: Information, education and practical support provided by public authorities

Governments should guarantee adequate information on the running energy plans, assuring the involvement of citizens or their representatives in the decision-making process. Local authorities should find out incentives for energy project developers to work with communities through the establishment of energy co-operatives or community energy. Since energy issue affects economic dimension, but also social and environmental systems, public authorities should take in account both private companies' and citizens' interests, acting in accordance to the precautionary principle that enables rapid response in the face of a possible danger to human, animal or plant health, or to protect the environment in particular, where scientific data do not permit a complete evaluation of the risk . Citizens have to be provided also with proper information both on possible costs in terms of financial, human and environmental impact and on different options of energy production. It seems that all over Europe information on alternative energy systems are not clear, spread and accessible. The results if that even though renewables might be a valid alternative to fossil fuels , many citizens are far away from using them. Training and work experiences in this field funded by the EU or national authorities but also awareness campaigns on renewables would be a first import step towards a real participation.

In order to achieve this goal, the governments have to officially acknowledge the significant potential of renewables, especially the ones produced by community energy. Cinergy project focuses indeed on small scale and bottom-up energy production and management systems and promotes community ownership as the route to increased community engagement and acceptance. The acknowledgment should be reached with laws, rules and a proper financial support. There are considerable administrative and legal hurdles for community energy to address and it increases costs and time. Bureaucratic procedures should be simplified and independent agencies funded by public authorities but run by experienced energy communities, might be based at the local level. These agencies could be also a contact point for people who want get involved in energy network, spread

information on public calls regarding alternative energy providers and inform people on public grants. Then recipients of advice could enter into an agreement whereby they paid for advice received once their project began generating revenue. Groups whose projects did not come to fruition would not need to pay.
In order to address the financial issue that often discourages renewables' use, public institution should also create a preferential feed-in tariff for renewables and community energy, investor tax breaks, an easier access to finance through a loan guarantee fund, finance mechanism for energy efficiency, incentives for community energy schemes as distinct from large scale commercial generation and support for individual household generation.

Proposal 2: Civil society's initiatives

Citizen participation is a two-way mechanism: "top-down" when public institutions set the conditions for citizens' involvement and "bottom-up" when people gain and use opportunities for participation. The European Citizens Initiative is a valid tool for citizens' engagement, since it allows them to participate directly in the development of EU policies, by calling on the European Commission to make a legislative proposal . A citizens' initiative has to be backed by at least one million EU citizens, coming from at least 7 out of the 28 member states and it may concern any field where the Commission has the power to propose legislation. This EU's mechanism can help community energy in order to boost their work, since one of the issues under the Commission's authority is environment. As we already said, energy is strictly linked to this dimension. Thanks the initiative, the organisers has the chance to meet directly the EU's institutions in order to explain it the issued raised. The Commission is not obliged to propose legislation as a result of an initiative, but it a chance to bring public attention in some particularly sensitive issues. For instance the "green 10" NGOs lobby European parliament and can only focus on a certain number of key issues. Some problems instead may be better represented by community based networks, demonstrating good geographic spread across counties.
Community groups, including established renewable energy generators, have a unique ability to play key roles in raising demand, delivering retrofits and investing in green deals. They have trusted links to the community to raise support especially from the fuel poor and hard to reach groups. They can also work at the local level in consortia to deliver surveys and retrofits, achieving economies of scale that are beyond the level of individual households. European community energy is also composed of citizens that are entitles to be represented in the Parliament. An instrument resulting from this faculty is the democratic debate with the national and European parliamentarians in order to ask them to promote rules and laws that facilitate the use of alternative energy production mechanisms.

Proposal 3: Cooperation

Cooperation between civil society organizations, local authorities and commercial developers facilitate citizens' participation in the field of energy production and management. It can be used a pilot programme initially to develop models of co-operation between all actors. In countries with a high proportion of community and co-operatively owned energy, local government or municipalities often act as the catalyst or co-ordinator. Involving local authorities and civil society organizations is particularly important to achieve significant scale, as community groups may lack the skills, expertise and access to finance needed for medium-scale projects. Many successful projects have indeed significant backing and support from local authorities, parish and town councils. The government should finally initiate a process to bring together commercial developers with representatives from the co-operative sector to look at incentives for shared ownership. This would result in considerable expansion of community owernship and could hold to ease tensions over planning for renewable energy.

2.5. Conclusions

When citizens get together in order to support community energy, challenges are likely to be addressed, but in some cases opposition may arise both from public authorities that are often not able to take in account people proposals and from private companies which try to protect their funded interests. At the EU's level an adequate communication system is a positive condition for a real participation, even though some practices, such as the covenant of mayors, but also legal rules, still luck a real engagement of citizens by creating an appearance of inclusiveness in the decision-making process. The situation in the European countries seems to be even worse, since both communication and participation tools do not allow people to get involved in the definition of energy policies. The monopoly of private companies, a luck of public support for community energy, inadequate information on renewables, ambiguous distribution of public financial resources make citizens' empowerment in the field of energy production and management a goal to be sought instead of a status quo all over Europe.

Projects like Cinergy intend to face these challenges and overcome the confusion and misinformation concerning community energy and the collective management of renewable resources. Cinergy has been conceived with the aim to push the participation to the high citizen power rung, where power is redistributed through negotiation between citizens and powerholders. With a partnership composed of a local authority, civil society organization and adult education organisations, our project tries to build a participative process based on sharing and discussing experience, knowledge. Despite the great difficulties that collective systems of participation are addressing both at European and national level, Cinergy's partnership intends to emphasize the importance of a bottom-up approach in energy management. Energy communities are thus good practices to take as an example as we believe that this is the direction to be taken in order to ensure a fair balance between the three dimensions – economic, social and environmental – affected by energy.

~ CHAPTER 3 ~

GOOD PRACTICES TOWARDS A POST-CARBON EUROPE

BULGARIA

"Coal is not the future of Bulgaria"

Actors:
NGO participants, experts, scientists, consultants

Good Practice Details:
Started in 2012, the joint campaign "Coal is not the future of Bulgaria" has been organizing and coordinating various experts, scientists, NGOs and activists in their efforts to promote a coal-free future for Bulgaria. The campaign has been developed around four main pillars with the purpose to extend its reach and cover to as many stakeholders as possible. Each of the four pillars - policy advocating, work with local governments, empowerment of civic and community organizations, and education, seeks to collect and disseminate ideas how to gradually reduce the share of coal in the energy mix of Bulgaria and promote the development of energy-independent communities in the regions most affected by the coal mining.
Given the complex political and economic situation in Bulgaria, a key element of the campaign has been establishing and maintaining dialogue and working relationships with the state government. In the course of the campaign we have participated in 8 public council meetings organized by the Ministry of Economy and Energy. By participating in public discussions on the future of the energy sector in Bulgaria we have been able to present to a high-level audience our vision for the future of coal mines and TPPs. Our position for reducing the share of coal in the energy mix, increasing energy efficiency and providing opportunities for developing energy-independent communities has been brought up in front of decision-makers and related parties. We successfully achieved broad public and media coverage and managed to start a discussion around the coal topic at the highest political level. Our efforts have also focused on establishing productive dialogue with local government representatives on the topic of developing energy cooperatives and promoting energy efficiency at a local level. We have organized multiple seminars and met with representatives of various municipalities to help them understand the administrative problems and difficulties people face when trying to establish energy cooperatives. The purpose of the meetings is to explain the issues, provide suggestions how to overcome them and help interested parties to more easily develop energy co-ops. The third pillar of the campaign targets the beneficiaries – local communities and groups. We have organized meetings with local community groups from the TPP/mining regions (around the towns of Stara Zagora, Dimitrovgrad, Galabovo and Radnevo). During the meetings we raised concerns about public health and environmental pollution as a result of coal mining and TPP activities. We urged local communities to demand local authorities to exercise more stringent control over the activities of the coal mines and TPP in the regions. Additionally, we discussed opportunities for developing independent energy cooperatives in the most-affected regions, the obstacles they face, and the support and tools they need to overcome these problems. The discussions have yielded valuable proposals and mechanisms for promoting energy cooperatives in these regions. Education has been identified as an essential element of the campaign as it is crucial to change the public perspective and improve the image of renewable energy sources (RES). We have an established network of 150 schools in the country where we regularly organized seminars and meeting with students and teachers. Our work is focused on educating them about the negative effects of the air and water pollution on their health and on the environment

and about economic, social, health and environmental benefits of RES.

Conclusions and Recommendations:
Our efforts have aimed to open up new communication channels with all related stakeholders. This kind of broad cooperation is highly useful for all participants and conducive to experience and knowledge exchange between them. The campaign efforts have provided us with comprehensive and high-quality outputs, summarized in a report about alternatives to the coal industry in Bulgaria. Additionally, we managed to present our vision and solutions to the broad public and to achieve extensive media coverage. Given the political instability in the country and the sensitivity of all topics energy-related, the campaign has proved to be a successful communication and information dissemination tool. Understanding the importance of the energy independent communities in the future, our recommendation is for the European Union to support energy cooperatives and energy independent communities.

"Support for community energy projects"

Actors:
5 civil society organizations (Za Zemiata, Greenpeace Bulgaria, Public Environmental Centre for Sustainable Develompent, Green Policy Institute, CEE Bankwatch Network), a scientist, business representatives, lawers, volunteers, expert from Ministry of Education.

Good Practice Details:
Bulgaria has gone through serious social turbulence in the recent months. The waves of protests, including severe protests triggered by the rising energy bills, resurfaced not new problems, but rather problems accumulated over years and decades. These problems include a very centralized energy system, no liberalized energy market with very few players and no real competition. The country has the lowest energy prices in the EU, but is also the member state with the lowest income per capita.
Ensuring the possibility for different kinds of communities - groups of citizens, cooperatives, clusters of small and medium enterprises, condominiums, etc. - to build their small energy projects is an important basis for the transition to decentralized energy and a real alternative to achieve energy independence and energy security, whilst also ensuring social justice, maintaining a healthy environment and ensuring a safe climate future. Energy efficiency and renewable energy deserve strong institutional and financial support given the past decades and the ongoing public financial support for conventional energy. At the same time the inclusive growth we strive for in Europe presumes EU citizens would have free access to the resources of the Union. Currently most programs that provide grants for renewable energy and energy efficiency, as well as the relevant financial instruments, often suggests high thresholds to fund projects and heavy administration. In many cases the access to these funds by small organizations, associations and those with a short history is actually impossible.

The term "community energy" refers to "owned by local people and located within the community renewable energy source" (electricity and / or energy for heating or cooling). Most definitions of the term tend to indicate the involvement and participation of the community that builds them – this involvement goes beyond the investment process and the simple shareholder relations. It can go a lot further in terms of community benefit as part of the income from the project can be devoted to the community and be used for instance to build a community center, for the maintenance of a school and more. "Community energy" implies the possibility of control over the project by individuals from the community that builds the project, for example though the participation in cooperative, association of small businesses, condominiums and more. Projects investing in energy efficiency may also fall under a broader definition of "community energy projects."

Conclusions and Recommendations:
Simplified rules, easy access to financial instruments and simplified administration for the grant schemes and the relevant financial instruments for cooperatives, condominiums association of NGOs and small businesses - this is the basis required for the development of community power projects. There are many unexplored possibilities for Bulgaria to provide financing to participants in such projects - crowdsourcing, bank loans, cooperative contributions. It is strongly recommended that the levels of grant are in line with the need for support of the chosen technology. Relevant to most programs - it is essential to provide easy access to cheap financing, even at the expense of lower grant levels. i.e. at low or zero interest rates.
Energy efficiency and renewable energy deserve strong institutional and financial support, given the past decades and the ongoing public financial support for conventional energy. At the same time the inclusive growth we strive for in Europe presumes EU citizens would have free access to the resources of the Union. Very important prerequisite for the development and support of similar projects in Bulgaria is to expand into the urban areas the approach for community-led local development.

ITALY

"Melpignano community cooperative for solar power"

Actors:
Melpignano citizens, local administration, Melpignano community cooperative

Good Practice Details:
The town of Melpignano, with barely more than 2000 inhabitants, has seen the creation of social movements against the local solar parks, and advocating greater access to small-scale solar systems. The local administration has sided with these movements and has shown its support for the creation of a community-based cooperatives for the implementation of solar panels on the town's rooftops. The cooperative and its partners, all citizens from Melpignano, have thus been in total control of the installation and the management of the solar panels and the revenues have successively been reinvested in projects dedicated to the community. The Melpignano community cooperative was officially created on the 18th of July 2011 during a public event in one of the town's squares. This project, which saw the collaboration of the local administration to the citizens' efforts, was promoted by the associations Legacoop and Borghi Autentici d'Italia. Anyone can become a member of the cooperative, either by making their rooftop available to the installation of solar panels or by paying a low membership fee, with each member having the same decision-making power. The project thus aims to install solar panels on all the rooftops of the homes of involved members, in accordance with the indications provided in a feasibility study made by the Melpignano municipality in collaboration with Salento University and the social cooperative Officine Creative based in Lecce. Once the budget is spent on the solar panels any remaining surplus is reinvested by the cooperative for the benefit of the community in two ways: by improving community life through infrastructure improvements for roads, parks, schools and street lighting, or by creating new work opportunities within the community itself, in canteens, sport centres, or for the maintenance of playgrounds and green spaces within the town, for example. Last winter another project was identified which aimed to invest in the implementation of thermal solar power for domestic heating purposes. The cooperative has received funding from the municipality and from coopfond, Legacoop's fund for the promotion of cooperative groups.

Conclusions and Recommendations:
The Melpignano community cooperative is the first Italian cooperative of its kind in the sector of renewable energy and constitutes a model for the promotion of similar projects to be developed in other places and around similar themes. The income from the production of electricity doesn't belong to any one individual but to the collective as a whole. The cooperative promotes a decentralized, sustainable and easily manageable source of energy: electric power is perceived as a common good and not as a commodity, and the citizen has the role of producer/manager and not mere consumer. This also infers a level of responsibility. Investments depend on the availability and the support of the local administration which may change over time. The European Union should promote the diffusion of similar community cooperatives by raising the awareness to local and European authorities, by assimilating such cooperatives into specific funding plans and by promoting this model within the broader contexts of European initiatives such as SEAP (Sustainable Energy Action Plan). Italy should support the widespread diffusion of this model. No substantial investment is needed, only a means to support the cooperative through initial informative campaigns, subsidies on loans and initial start-up funding.

"Retenergie Società Cooperativa"

Actors:
Citizens, cooperative "Retenergie", Banca Etica, Trenta energy provider

Good Practice Details:
Retenergie Società Cooperativa was established in 2008 in Cuneo as the initiative of a group of people already committed to promoting the production of energy from renewable sources. The basic idea is to create a model that will permit the production and use of electrical energy from renewable sources through grassroots action. The challenge faced by the cooperative is to create a virtuous circle from production to consumption. The cooperative form was chosen because the objectives have to be consistent with the means used: participation, self-reliance, solidarity. The Retenergie project is the result of the efforts of the Solare Collettivo non-profit organisation. The project was the outcome of the experience of 40 people who came together to fund and build a 20 kW shared photovoltaic system. Following this first experience, several amongst them wanted to repeat it, hence in 2008 the cooperative group Retenergie was created. The cooperative builds photovoltaic systems thanks to the expertise of designers and technicians, and the produced energy is then sold to its members at a special price. The cooperative also offers advisory services around energy saving. Individuals are given the opportunity to become actors within the system of energy production. The cooperative is also actively engaged in the Stop Enel campaign.
The implementation of the Retenergie solar panels follows a code of ethics, for example no panels are installed on the ground, e.g. whenever possible existing irrigation canals are exploited. So far the cooperative has installed 7 photovoltaic systems thanks to funding by members and the loan provided by Banca Etica, a partner of Retenergie. Members contribute either by providing an equity investment to the cooperative, which means they do not have a predetermined income from their investment, or by a peer-to-peer investment, with contracts lasting for 1 or 2 years and with a fixed return of 2-3% per year. The fee to become a contributing member is 50€, which includes the right and the possibility to be a part of purchasing groups and to benefit from discounts on technical assistance regarding the panels. The agreement includes economic benefits for members, who are entitled to a 12% discount on their electricity bills and who can benefit from reductions on the implementation of solar panels. The more panels are installed the better the return in terms of investment. Of one and a half million euros worth of investments, a third came from equity investments, another third from peer-to-peer investments, and the last third from the Banca Etica investments.
The energy produced by these panels is reintroduced into the electricity network. The network is currently still being developed: for the time being there are about 600 members, however the panels can provide electricity only for 180 families. Of the total number of members, only 25% have switched electricity provider. When Retenergie will have a higher number of members and as a result will be more stable, the goal will be to switch to billing clients directly, in order to bypass the current provider, Trenta.

Conclusions and Recommendations: The model is independent from local authorities which guarantees it is not subject to changes in the local administration governments. Retenergie promotes a decentralized and sustainable source of energy in which the citizen has the role of producer and manager and not only mere consumer. This also entails a part of responsibility. The network still relies on Trenta because it still doesn't have enough members. At the moment the network consists of 600 members but it can only produce energy for 180 families. Retenergie should increase the number of members in order to be able to switch to billing clients directly, bypassing the current provider, Trenta. EU should promote the diffusion of similar citizens' cooperatives by raising awareness of local and European authorities, by assimilating such organisations to specific funding plans and by promoting this model within broader contexts of European initiatives such as SEAP (Sustainable Energy Action Plan).

"Groups of Solidarity buyers of Photovoltaic in the Lecce Province"

Actors:
Citizens / local cooperative, local administration, Melpignano community cooperative

Good Practice Details:
The GASP experience, self organised groups of citizens and professionals promotes the installation and management of solar panels on rooftops. The citizens are the project promoters, and as members of the group they had direct access to the expertise and competences of the professional members of the buying group, whilst benefitting from an easier access to credit, etc.
The GASP experience came out in Salento as a reaction to the negative experience of photovoltaic panels on the ground. Those involved in creating this experience had been previously exposed to all the drawbacks of photovoltaic energy in Apulia and were determined to turn the group towards a best practice approach. GASF are groups of producers/consumers of photovoltaic electricity self organised amongst themselves through informal committees or civil society organisations. GASF is composed of citizens providing their roof for installation, local cooperatives and workers of the photovoltaic sector, interested citizens that together develop the installation of photovoltaic panels on roofs and support its implementation/management autonomously from external private companies, having a participative model of management shared among the members of the GASF. The entire process of GASF is community and solidarity -based, from the initial design project to the installation to the maintenance, benefitting from private rooftops and professional knowhow. The GASF practice is based on ethical and aesthetic criteria, as well as on principles of social sustainability. In concerns of its employment policy, priority was given to young individuals from the surrounding area who would be in charge of maintenance and installation in order to strengthen relations at a community level, alongside promoting new opportunities for employment. The training of the young employees in charge of fitting the panels was supervised by an expert energy manager. This model would ideally be replicated also by other municipalities in the Salento region.

Conclusions and Recommendations:
The model is independent from local authorities which guarantees it is not subject to changes in the local administration governments. GASF promotes a decentralized, sustainable and easily manageable source of energy the citizen has the role of producer/manager and not mere consumer. This also requires a certain level of responsibility. GASF is a model that is spreading quite well all over the country. The income from the production (minus consumption) stays with the producer and is not commonly shared or to the community at large like in Melpignano model.
The EU should promote the diffusion of similar citizens' organisations by raising the awareness of local and European authorities, and by assimilating such organisations to specific funding plans and by promoting this model within broader contexts of European initiatives such as SEAP (Sustainable Energy Action Plan). Italy should support the widespread diffusion of this model. No substantial investment is needed, only a means to support the cooperative through initial informative campaigns, subsidies on loans and initial start-up funding.

ROMANIA

"Small communities and NGOs promote climate friendly energy solutions"

Actors:
Prietenii Pamantului (Earth Friends), citizens and local authorities from Brusturoasa & the others communes, schools and teachers from selected areas

Good Practice Details:
The Local Energy Planning Committee (LEPC) is a tool of participatory planning. It involves citizens in a process of identifying the causes of energy poverty, to open a new channel of communication between citizens and local authorities on a critical subject for individuals but also for public institutions. From here it was a single step to collect ideas on how to improve the situation. Proposals came both from the committee to the Local Council. The Town Hall was empowered to approach European programs for energy efficiency and renewable energy and to initiate projects.
The visible effects of our work with citizens gathered around LEPC are in fact projects implemented by Local Authorities. All these projects were inspired by the community via LEPC.
In Brusturoasa:
- Changing public lighting network from high energy intensity Hg and Na vapor lamps to low consumption compact lamps leading to energy savings of 77,600 kWh/year
- Changing the heating system in a school from electric to a small scale biomass boiler. The forestry biomass is one of the most important resources in the area so the use of electricity for heating is inadequate.
- All public buildings were renovated with improved thermal insulation (Town Hall and two schools)
- A hybrid solar and biomass boiler for the Town Hall (it is used also as a demonstration point for the local people in order to provide better understanding of the benefits of using solar heat in their own houses)
- The Mayor and the Local Council decided to join the 'Convenant of Mayors' becoming the 111th signatory of the Romania Convenant of Mayors, and approximately the 5000th of signatories at global level
- A team of technical staff and the LEPC will elaborate the Sustainable Energy Action Plan (SEAP) for Brusturoasa
In Piscu:
- Photovoltaic system for lighting of a school
- Solar water heating for a kindergarten
In Sărulești:
- Installation of double glazed windows in the school and improved building insulation
In Sovata:
- Photovoltaic street lighting

Conclusions and Recommendations:
Problems in changing attitudes is a difficult issue even the positive outcomes are obvious for the actors. Without long term investment in time and energy with each person it is impossible to get sustainable results, thus, information, education and training are crucial and establishing effective change.
Demonstration, personal example, case studies, success stories are valuable tools for better understanding and conscious decision making, but commitment and determination are essential for those who chosen to work on changing attitudes and behaviour towards a sustainable approach to energy and environment.

"Low carbon meets Slow Food in Brusturoasa"

Actors:

Prietenii Pamantului (APP), citizens from Brusturoasa and neighbourhood communes, students from Galați colleges and University, volunteers from old EU member states environmental organizations.

Good Practice Details:

The spirit of the Slow Food movement is to promote traditional local products while respecting the environment. Romanian environmental association, APP, therefore partnered with the local branch of Slow Food from the villages of Brusturoasa and Palanca in the Eastern Carpathian Mountains, to build an energy-efficient meeting centre. In 2005 APP was experienced enough and connected with several environmental networks to switch its methods to more powerful tools for changing attitudes – the power of personal examples and the demonstration centre. Of course at that time it was impossible to get funding for projects such as these, but the idea remained on their to-do list. In the meantime, using their abilities and expertise, with some support from foreign funders, APP produced energy displays to be exhibited in public places in order to be seen by as many people as possible. The results were encouraging, many people with basic technical skills and low incomes started to be interested in improving their lives with simple, effective and non-polluting systems to produce hot water, preserve food using solar energy, water their gardens with drop systems, use wind to get low amounts of electricity for remote places, rediscover the use of the animal waste as fertilizer, better insulate their houses in order to reduce the cost of heating, use local construction materials for building new houses, reduce household waste by reusing, recycling and composting, and many other cost-effective and sustainable measures to improve their lives and to protect the environment, and at the same time, to rediscover excellent old practices and correlate them with the most affordable clean technologies.

APP managed to build The Centre for Traditions' Conservation and Rural Sustainable Development in Brusturoasa with support from the Norwegian Co-operation Program for Sustainable Development in Romania. It focuses on energy efficiency, renewable energy, and appropriate technologies. From here to the philosophy of Slow Food was only a small step. The production of tasty and organic food can be part of a local economy based on equity and mutual trust. It strongly connects the subsistence farmer with his clients from towns. It is a great way of influencing the attitude and behavior of city inhabitants towards the recognition for the need for protecting nature and the traditional way of producing food in a sustainable manner. A very important factor influencing the work was the issue of the 'Manifesto on climate change and the future of food security' produced by The International Commission on the Future of Food and Agriculture. The manifesto is based upon the strong link between climate change and agriculture, drawing attention to the contribution to the problem by the industrial globalized food system and the potential to mitigate it by adapting to ecological and organic farming.

The small garden of the Center is used for traditional seeds saving production and a series of practical workshops to disseminate the importance of such practices. The small kitchen offers space for local women to produce jams and syrups from forest fruits according to seasons. Solar power harnessed by solar driers is used to create locals preserves, wild mushrooms and medicinal herbs.

An important input comes from our foreign visitors that contribute with specialised knowledge or practical work to running the activities at the Center and to inter-cultural exchange.

Conclusions and Recommendations:

Increasing the role of the Centre for Traditions, Conservation and Rural Sustainable Development as focus for work on sustainable energy solutions and improving its educational role. Organizing permanent and thematic exhibitions of the most popular examples of equipment and good practice energy efficiency and renewable energy. For National Government: to tailor public policies on agriculture, energy and climate based, to consultations with civil society and with large public participation.

SLOVENIA

"Šentrupert Vision 2020"

Actors:
municipality of Šentrupert, local inhabitants

Good Practice Details:
The municipality has created The Vision 2020, which says that the municipality will become energy self sufficient by the year 2020. They are reaching this goal through different activities. They started with 'The Land of Hayracks' as an innovative project which connects the versatile value of hayrack heritage with modern forms of tourism and the economy. The municipality, local societies and companies, educational and scientific institutions, as well as numerous individuals are involved in the project. The Municipality of Šentrupert with the comprehensive presentation of the Land of Hayracks emphasises the importance of conservation and the protection of natural and cultural heritage, and promotes the sensible use of wood for economic purposes.
The first energy project was the renovation of primary schools, followed by a wooden low energy kindergarten, built with a wood chip boiler and electric filling station for electric cars. The boiler is big enough for school heating too.
In 2014 a new boiler house for biomass for Dob prison was opened, and it is also a good example of cooperation between Dob prison and the local community. Before this the prison was using fuel oil, but now the new energy source – wood – will come from the local environment. This is another step towards energy self sufficiency, with the additional social aspect of involving prisoners. The Municipality of Šentrupert is 60% covered by forest and with this project forest management in the area will be encouraged. A lot of energy will be saved with the use of co-generation and co-production of heat and electricity. The municipality is also cooperating creating a REUSE centre, which collects and recycle old furniture.
There is a plan of combining heat and electric supply and self sufficiency with the vegetable production on 4 ha of greenhouses at the prison. Prisoners will be included in this activity, as well in the wood manufacturing centre, which is planned to be built in the area of former barracks. For the first phase they plan to use 5 ha of 22 ha and build a sawmill, drying house, cogeneration on biomass, laminate and pellet production and a logistics centre for wood energy products. In this centre all the wood chips will be produced for energy and heat production for Dob prison, the school boiler and the future boiler house for heating of central and eastern part of Šentrupert.

Conclusions and Recommendations:
Reducing greenhouse gas emissions by approximately 2700 tons. Local energy and food supplies have the smallest possible impact on the environment. Money which was previously spent on fossil fuels in now invested in the local area. There is new employment of locals and also for at least 50 prisoners in local energy and food supplies. There are many opportunities to transfer good practice within Slovenia as there are many similar municipalities.

"Environment friendly and energy efficient Thermal Spa Snovik"

Actors:
private enterprise, locals

Good Practice Details:

From the very beginning the objective for Thermal Spa Snovik was clear: to create an eco- and visitor-friendly energy-efficient spa facility. A number of institutions were involved in the project at the planning stage advise on the construction of various buildings in the unspoilt Snovik Valley, allowing the harnessing of its healing thermal waters. A land-use plan was drawn up for an area of 23.6 hectares, indicating significant potential for social development, including both financial and environmental. Locals are still involved and the valley has developed in many ways. The project represents the successful implementation of a long-held goal: harnessing the healing thermal waters discovered at Snovik decades ago. To date the project has created about 30 new jobs directly and over 50 indirectly. In 2007, the use of renewable energy allowed heating costs to be reduced by 28%, while total turnover increased by 36%. The company also received the European Eco-label. They don't use fossil fuels for energy and this way they have succeeded in reducing CO2 emissions by approx. 305 tons a year. Only high-grade materials with the appropriate certification were used. Construction itself done in stages to allow the inclusion of the various measures aimed at energy efficiency and to allow the verification of the results with thermographic imaging. At the start of the work a biological waste water treatment plant was installed and a boiler room for liquid gas was built. Liquid gas is now used as the primary energy source and also serves as a reserve to meet peak demand. When further facilities were added (swimming pool, restaurant, sauna, therapy centre), evacuated tube collectors and two heat pumps (water–water and air–water) were installed, and in the last phase of construction a biomass heating plant was also built. The biomass comes from the local forests. The apartment buildings are operated on the intelligent room/house principle. To permit further development with the construction of new facilities there are plans to install a photovoltaic system and to upgrade the existing boiler room for operation as a combined heat and power plant. Another way locals are involved are different activities within the Thermal Spa Snovik – there is a market of local products, a thematic paths, etc. The idea is to encourage locals to be involved in the projects as well. The development of the valley also led to the establishment of a new public bus route. The municipality is therefore also involved and, indirectly, many tourist and business stakeholders are included. They are building networks and spreading knowledge and experiences amongst partners and in this way encouraging them to create a better environment and quality of life. In striving for a better environment they are also encouraging inhabitants to manage their forests and pastures correctly, and this biomass material can then be used in the thermal spa for heat production. There is an excellent communication strategy and cooperation with the local community: organising "technical days" for primary schools, presenting medicinal plants which were planted and named in apartment village gardens, offering organic food from local suppliers, organising "health clubs" - workshops on healthy food, organising specialist walks with local people, presenting local crafts and customs, etc.

Conclusions and Recommendations:

If the idea is good and you have strong and persistent people to push the project forward, then the results can be really concrete and useful for all stakeholders. A clear vision is needed and cooperation with the local environment is necessary too. Environment and local people should always be treated with respect. When connecting different sectors everyone should always 'win' and local inhabitants should always be involved; there is other way a project can be successful.

All the measures and technical solutions are transferable in every environment if they fulfil the condition that all potential beneficiaries have a certain level of awareness and are willing to learn new skills and knowledge. The project is well known and there is always interest from different investors to see the results. There is not only interest in the field of tourism, but also other fields. Energy efficiency measures such as in Thermal Spa Snovik could be easily replicated in other tourist resorts as well.

CROATIA

"Centre of knowledge for permaculture and sustainable living - ZMAG"

Actors:
Civil society organization (CSO) ZMAG, individuals, volunteers, schools, faculties, other CSOs and grassroots initiatives

Good Practice Details:
Main activities of the Centre of knowledge for permaculture and sustainable living are:

- Continuous workshops during the year on the Recycled estate
- Permaculture courses and academy
- Counselling
- Visiting lectures
- Networking

Initiating transition town of Velika Gorica
Most workshops are open to the public, participants are led through the theory of a particular subject (e.g. sustainable energy), and then work with workshop leaders on the particular topic. One of the most popular workshops is making a DIY solar collector for hot water. ZMAG has done over 20 solar collector workshops and taught 15 to 20 people per workshop. Workshops for school students are also organized on the Recycled estate with tailored agendas depending on the participants age. Solar collectors are installed in schools, kindergartens and other public institutions, providing low carbon energy.
Courses (so called "72 hour") are designed to introduce permaculture as a designer's method to all interested participants, primarily individuals interested in practical sustainable living. Permaculture is a set of knowledge, used to design living spaces in order to function sustainably, respecting people's needs, environmental limits and social structures. Courses last for 10-12 days and participants are given certificates after successfully presenting a group permaculture design (project) for a certain location.
Course participants work on real projects, such as house building, seeding, water management, etc. Academy lasts for a one year season, so participants can experience many methods and technologies.
Distance learning is an activity where people can be taught via phone or e-mail on particular topics. ZMAG members are well experienced in most fields including agriculture, building, renewable energy, energy efficiency, etc. At the centre there are numerous working examples of how to produce renewable energy (solar thermal system for hot water, off grid PV solar power plant and a wind turbine) and also examples of energy efficiency in buildings (straw bale buildings, passive solar architecture, natural building materials, massive wood burning furnaces, solar ovens and cookers, etc). ZMAG is also active in the research and development of appropriate technologies rather than using high-tech ready-made solutions. Most of the technologies are described in the booklets and manuals available in Croatian from http://www.zmag.hr

Conclusions and Recommendations:
ZMAG is a grassroots CSO with horizontal internal structure, all major decisions are reached in wide consensus of all present members. ZMAG is based in the village of Vukomerić, 25km south of Zagreb where it runs Recycled estate – a fully sustainable centre open for education, information and research in permaculture. In Vukomerić there is also a community of people living and working closely to ZMAG, often referred to as an eco-village. Recycled estate is a good case example of low carbon living using local biomass, solar and wind energy, and energy efficient buildings as a part of permaculture principles.

"NGO GONG and its communication and participation strategies"

Actors:
GONG employees; all its stakeholder groups (concerned citizens, NGOs, media, public administration on local, regional and national levels)

Good Practice Details:

GONG has four main program areas:
1. The Electoral System through which it tends to improve the Croatian electoral system to ensure transparency and political participation.
2. Good Governance whose focus is reaching high institutions and local / national governance, characterized by honesty, responsibility and transparency.
3. Active citizens and CSO through which GONG promotes activism and citizen cooperation, CSO's and education for responsible and active citizenship.
4. Croatia and EU through which it monitors EU institutions whilst enhancing advocacy and influencing the decision making process.

Every program GONG runs consists of activities enforced by 1 of 3 methods (education, research and advocacy), ensuring quality and applicability of the results.

It is a cyclical process – research is conducted on a certain topic so the results could serve as a basis for advocating change. The education of citizens and advocating for change then follows. Research is conducted by GONG's Research Center that works independently and in collaboration with external partners. It also analyses the content and processes within public policies that contribute to and/or support good governance. Advocacy is what makes GONG recognizable to the general public due to many successful awareness-raising actions and campaigns. It has also instituted an Advocacy Network through which more than 60 CSO's interact. Education is what the EDU-center mainly focuses on lifelong learning and informal education takes place: educating officers about the right to freedom of information, the Aarhus Convention, scientific research methods, etc.

Conclusions and Recommendations:

A large number of NGOs face problems while trying to communicate certain issues to the general public or to specific stakeholders. Conducting thorough research of issues is a good place to start any change, since it creates a solid foundation of information. With time it also adds to the reputation of the NGO trying to advocate change - the education of concerned citizens, as well as publicly advocating for change, can then begin. Advocating for change is a long-term and demanding process, and is always easier to carry it out through partnership with other NGOs.
Although we are fully aware of the complexity of this whole process, as well as the logistical and financial obstacles, it is our opinion that more attention should be paid to all three stages (research, education, advocating).
To NGOs trying to advocate change: prior to starting to communicating with stakeholders with the goal of achieving social change, emphasis should be put on conducting thorough research. Success of is more likely to happen if more stakeholders engage in the process, i.e. through partnership and/or networks.
The communication and participation strategies which NGO GONG use could be applied in a great number of sectors, including energy management and development sectors. These strategies could help educate citizens about energy related issues, advocating for change, and could also help foster citizens' engagement in energy topics.

UNITED KINGDOM

"Community Energy England"

Actors:

Low Carbon Communities Network, Pure Leapfrog, Energy for All, Green Community Buildings and further representation across the Sector. Formal Government support in the form of the Secretary of State for the Department of Energy and Climate Change; the Secretary attended the launch Conference as Key Note Speaker.

Good Practice Details:

The UK Community Energy Sector has been pressing for a Community Energy Strategy for 10 years. The current Government promised to produce a Strategy - the Sector pursued this. Over the last two years the sector has worked with Government to provide a framework for consultation, to facilitate consultation and to engage the sector in providing evidence for the consultation process. 18 months ago a small group suggested establishing 'Community Energy England' to take the Strategy forward. Low Carbon Communities Network drew together a small group to lead this work.

The national Community Energy Strategy was published in January 2014 and specifically mentioned Community Energy England as a potential mover in developing the Sector. The Strategy has four themes:

- Generating energy
- Reducing energy use
- Managing energy
- Purchasing energy

Community Energy England has been formed to support communities wishing to work with these themes. It was launched at a conference in London on the 4th June 2014. It is supported by the Sector, by Commercial Businesses, by local and national Government.

It is a Membership organisation and the principal aims are providing practitioner support (expert Mentoring) for community groups and being a voice for the sector in policy discussions.

Conclusions and Recommendations:

Community Energy England is a new organisation that has cross sector support. It has developed a clear brief and secured funding streams that will allow it to support its aims and objectives.

One of the most significant threads is EU funding. From 2015 20% of all EU funding in the UK will have to be committed to Low Carbon themes. In North East England there has already been a request for a Regional Community Energy Pilot Project. This bid is supported by: the Regional Energy Company, the Regional Funding Body, all seven Local Authorities and the Voluntary and Community Network. Funding has already been secured from the Regional Energy Company to work through the Expression of Interest and the Full Application. The pilot is seeking €20m for community energy in the North East of England over the period 2015-2020 (50% from EU Structural and Investment Funds). The pilot will deliver:

- Community capacity building and learning; encouraging individuals to engage with Science, Technology, Engineering and Mathematics (STEM) subjects.
- A 10% reduction of CO2 emissions in community buildings - against 2013 levels.
- Capital projects generating over 5MW pa from community owned renewable energy projects (wind, hydro, PV) and 2MW pa from community heat projects (geo thermal, ground source and biomass).
- New approaches to connecting off-grid properties.
- Collective and bulk buying community based energy schemes.

After 10 years of work, pressing for a Community Energy Strategy, we are surprised how quickly we have been able to act on this Government document. We are now in a position to support community energy groups, to help them share learning, to ensure that funding is in place to turn their dreams into reality.

"En10ergy Ltd Community Energy Enterprise, Muswell Hill, north London, UK"

Actors:
local residents, local Council (the London Borough of Haringey), Greater London Authority (GLA) and the Department of Energy and Climate Change.

Good Practice Details:
En10ergy Ltd is a social enterprise (not for profit company) set up by Muswell Hill Sustainability Group (MHSG) in 2011 to promote and invest in local renewable energy and to encourage and facilitate the reduction in carbon emissions and waste by households and businesses in Muswell Hill (north London). The initiative grew out of a Low Carbon Zone project run by the GLA. The company raised money through a share offer to local people. There are 105 shareholders, who can withdraw their investment but do not receive a return on it. Two arrays of solar photo-voltaic panels were erected with project management carried out by a local sustainability consultancy - 100 panels on the roof of a local supermarket and 39 on a local church. The electricity generated is used in the buildings (saving carbon emissions) and the surplus is sold to an energy supplier. The church, for instance, now generates about one third of its annual electricity use with the solar panels. The solar panel project was accompanied by many events to encourage local householders, community buildings and businesses to consider installing energy saving measures, such as low energy light bulbs, loft insulation, double glazed windows and wall insulation. Grants were available for these measures. Volunteers carried out door knocking in the Low Carbon Zone to raise awareness of the project.
The money raised by the sale of the electricity is used to fund local low carbon projects, such as energy audits for local schools, advice on energy saving measures and subsidies for low carbon products for local residents. In particular, it has enabled the group to employ a part time co-ordinator, who has organised speaker meetings to raise awareness on the dangers of global warming, and how to move to a low carbon future and information meetings about how to take practical action at an individual level. Households were encouraged to complete a questionnaire on their energy use (including travel), make a pledge to reduce it and then followed up to see what action they had taken. In particular, MHSG has been able to hold several low carbon weekends, where householders can meet local retrofit suppliers and builders and visit houses that have been retrofitted to learn about what action they can take themselves, how much it costs and where to get advice to reduce their carbon emissions

Conclusions and Recommendations:
In the UK it is possible for citizens who are concerned about carbon use to organise themselves to raise awareness about this issue and to generate electricity from renewable sources for community use. There is now a well developed network of organisations that can provide advice and support on how to set up an energy enterprise. There are several reputable web sites for people seeking investors in community renewable energy schemes. There is also a policy regime that supports communities in the sale of electricity from renewable sources to commercial energy suppliers.
However, there remain in many cases, serious obstacles in getting planning permission for new renewable energy installations, even where these are supported by local communities. Connection to the grid system (controlled by the Distribution Network Operators) is not always easy (or affordable). What community groups would most like to see is some long term Government commitment to a low carbon future for electricity generation that goes across political parties, together with policies that are stable over reasonable time frames. Continual changes to the price paid for renewable energy has led to loss of investor confidence and job losses. Vision and leadership is needed.

"Action on Energy"

Actors:
Low Carbon Hub, Oxford City Council, Oxford County Council, Community Action Group (CAG) Project.

Good Practice Details:
Oxford City Council, Oxfordshire County Council, the CAG Project and local social enterprise, the Low Carbon Hub are working in partnership to take action on energy across Oxfordshire. The aim is to position Oxfordshire at the forefront of low carbon innovation and lead on the UK's transition to a sustainable energy future. The programme has been kick-started by three years' funding from the Intelligent Energy Europe programme of the European Union. The reputation of the councils builds trust in the programme and the Low Carbon Hub brings innovation, enterprise, and new skills to existing relationships with local communities: a powerful combination.
The Low Carbon Hub is developing a community-based renewables infrastructure for Oxfordshire. The Hub helps communities to develop renewable energy schemes and to reduce local energy demand. It acts as a centralized, expert "Hub" to help community leaders fast-track through the project development process. Our model is unique in that we partner with local businesses and the public sector to develop renewable energy schemes under our Community Benefit Model. Under this Model, host organisations get discounted, green electricity; investors get a fair return; the Hub receives a sustainable income stream to fund its work with community leaders. Sister organization, the CAG Project is the largest UK network of community groups acting on climate change and helps us by building capacity across the county and identifing those groups that are 'investment ready'. The Low Carbon Hub then takes the groups to the next stage, with continued support from the CAG Project. We help each community to develop its own local energy projects by providing direct services and enabling disparate community leaders to network via a central point. Community partners take up a free, voting share in the Hub.

Our vision is a new energy system in which the rooftops, waterways and woodlands of Oxfordshire become the power stations of the future: local power owned by local people. Simultaneously, householders will be given the help they need to reduce their energy through behaviour change and retrofitting programmes. At the moment our efforts are focused on Oxfordshire, but we plan to collaborate with other regional 'Hubs' so that successful models can be replicated nationally.

The Oxford Bus Company (OBC) is the first business to develop renewables in partnership with the Low Carbon Hub. Funded by local investors, the 140kWp solar scheme on the depot roof in Cowley generates 122,085kWh/annum, will save 1,257 tonnes of CO2 over its lifespan and delivers a revenue stream to support community projects. The Hub has also supported local community projects to develop and market their share offer: Osney Lock Hydro to develop a 49kW hydro scheme on the River Thames and Oxford North Community Renewables to build a solar PV scheme with two local schools.
The next tranche of projects are to be built in summer 2014 and will be funded by a community share offer. The share offer will enable local people to invest in local energy. This will give real ownership of the energy supply to the community of Oxfordshire.

Conclusions and Recommendations:
The Hub's grand plan or vision is for the rivers and rooftops of Oxfordshire to be the power stations of the future. We want communities, businesses and the public sector to "power up" by developing renewable energy schemes and "power down" by reducing energy use. The key barriers to the Hub's success are creating awareness and understanding of renewable projects and the issue of grid capacity: the UK grid has been designed to accommodate centralised power generation, not distributed.

Map above: Distribution of good practices in Cinergy project countries

~ CHAPTER 4 ~

CINERGY'S RECOMMENDATION TO THE EUROPEAN COMMISSION

4.1. The role of the European Commission towards a post-carbon Europe:

The European Commission plays an important role when it comes to tackling climate change through the development and growth of the renewable energy sector, as – with Europe's 2020 Strategy and with Europe's 2020 climate and energy package targets have been set:

- A 20% reduction in EU greenhouse gas emissions from 1990 levels;
- Raising the share of EU energy consumption produced from renewable resources to 20%;
- A 20% improvement in the EU's energy efficiency.

Nonetheless it is not up to the EU level to decide directly HOW Member States should reach this target. However, by giving a more comprehensive definition and classification of renewable energy and by stressing the necessity to give citizens' a key role in the achievement of the 2020 targets, the European Commission can stimulate new solutions and foster a willingness in the member states to organize change.

In fact, action taken at EU level affects not only energy policies in the member states but also (and significantly) the energy consumers – thus the EU citizens – themselves.

Communities across Europe are slowly but surely playing an increasing role in producing and managing energy. This brings those communities and indeed all of society a wide range of benefits. If this growth is to continue and to scale up as research shows it can, then every nation needs a clear strategy and the EU can provide leadership and guidelines towards this.

In fact, action taken at EU level affects not only energy policies in the member states but also (and significantly) the energy consumers – thus the EU citizens – themselves.

4.2. Structure and aims of CINERGY strategic recommendations:

This document has the objective to inform policy makers and decision makers at all levels, from local to regional to trans-national, about the core findings of the CINERGY project. It is intended, among others, for national governments and ministries and, mostly, for EU Commission competent Dgs (DG Energy, DG Climate). The purpose of the policy recommendations is to stimulate further institutional support to the development of community energy throughout Europe.

The aim of these recommendations is twofold: To disseminate the CINERGY project's insights on the development of energy communities in Europe (inform the relevant stakeholders) and thereby to give the individual stakeholders a quick overview of the most important areas of action for increasing communities' role in the production and management of renewable energy in Europe (thus, their role in tackling climate change and achieving EU's targets for 2020) and to provide them with orientation and inspiration on how to implement the necessary changes to remove the obstacles that are now jeopardizing the development of community energy in Europe.

Strategic recommendations are oriented towards potential and targets, and are of a general nature, which means that they are transferable and applicable to a variety of situations, countries and regions, as one of the main outcomes of the CINERGY project is a profound awareness of how – although there are structural differences between Member States – community energy is hampered by the same obstacles in several EU Member countries.

4.3. 9 recommendations based on CINERGY project's core findings:

Considering there are relevant exceptions – eg. The United Kingdoms, where strategic actions to foster the diffusion and growth of community initiatives in energy production, management and provision have been supported and even promoted by the National Government – CINERGY's transnational workshops outlined how in Romania, Italy, Croatia, Slovenia and Bulgaria, the role of citizens, small enterprises, cooperatives and, in general, of the civil society, is not being taken into serious accounts by their National Governments. Therefore the CINERGY partnership agrees in asking the European Commission to take action by giving civil society the necessary means to play its key role in tackling climate change and by guiding member states in their achievement of the 2020 targets by stimulating the elaboration of national energy strategies which give priority to a distributed, community-led and zero environmental impact energy production and consumption model.

The CINERGY partnership has developed 9 recommendations to the European Commission, following three main strands of actions, resulting from the core findings of the 4 transnational workshops held between 2012 and 2014 in Romania, Bulgaria, United Kingdom and Slovenia and on the 20 national focus groups which took place in Romania, Italy, Bulgaria, Slovenia, Croatia, United Kingdom:

- Improvement of EU's institutional communication towards citizens, local authorities, cooperatives, etc. on its Energy related directives, strategies and tools and on EU's energy and climate strategy;
- Targeted EU funding programmes, structural funds, etc. for the development of community energy;
- Guidance to Member States on support schemes and National energy strategies through the amendment of Directive 2009/28/EC and through a more comprehensive definition of renewable energy.

1	EU COMMUNICATION AND DISSEMINATION STRATEGIES ON ENERGY AND CLIMATE

Context and rationale

Analysing the European Commission's information campaigns aimed at citizens since the year 2000, it is clear that systematization of its communication activities is necessary to improve their effectiveness and encourage citizen participation. As an example, although the Energy Roadmap 2050 is of relevance to the lives and jobs of hundreds of millions of EU citizens, the public consultation set by DG-Energy in 2010 for the preparation of the document received only 400 responses.

The development of a more precise European strategy on renewable energy has not been matched by an adequate development of communication strategies in relation to it - European institutions are not yet considering information as an invaluable support to the shift to renewable energy and to address the challenging issue of climatic change.

A clear, comprehensive and accessible framework of European policies, supplemented by legislative measures, would enable citizens to acquire a clear picture of the strategies implemented by EU, encouraging their participation in the decision making process.

In addition renewable energy and post-carbon strategy cannot be dealt with without taking into account closely related issues, themes and political areas, including environment, employment, research, technological development, fiscal taxation, competition, agriculture, local policies and international relations. The adoption of integrated, cross cutting communication strategies is therefore essential to carrying out an effective information campaign, raising awareness of European energy policies, promoting renewable energy and catalysing citizen involvement.

A further critical issue is the lack of a follow-up strategy for communication activities: the creation of web-sites is

not enough and the efficiency of institutional communication has been overrated - so far very little consideration has been given to strategies based on non-formal education and informal communication of renewable energy information. The task of informing and involving citizens through informal and non-formal communication strategies has often been delegated by the EU to EC financed projects dedicated to their provision, but this kind of activity has rarely been considered as a priority in European plans, even if active citizenship is a key EU priority . I

Furthermore, as EU policies are often implemented in member countries at the regional and local level, it is necessary to set up a coordination strategy between the EC and member countries' regions in order to conform the communication tools and guarantee widespread, targeted? dissemination of information.

Recommendation

All EU institutions, and in particular European Commission's DGs, should implement activities and practices that will improve communication, especially informal and non-formal education, on renewable energy and on EU energy strategies towards 2030 and 2050.

Implementation

The EU should:
- Ensure that communication activities are integrated and cross-sectorial.
- Develop guidelines and implement tools for structured 'non-formal' education and informal learning (none of us here know what these terms mean so I've tried to defined them a bit) communication on renewable energy;
- Implement a follow-up strategy to systematize communication tools so as to make participation permanent.

Encourage training on EU communication and information tools and strategies for local administrators aimed at fostering citizens' involvement with EU energy policies at the local level

Relevant EU laws, directives, documents

- Energy for the future, renewable sources of energy: White Paper for a Community Strategy and Action Plan
- Action Plan for energy efficiency (2000-2006)
- Directive 2009/28/EC
- Green Paper - A European Strategy for Sustainable, Competitive and Secure Energy [2]

2 "EU'S ONLINE PUBLIC CONSULTATION TOOLS: AN EFFECTIVE WAY TO FOSTER ACTIVE CITIZENSHIP?"

Context and rationale

The EU has developed the website 'Your voice in Europe' as a consultation tool to provide citizens with the opportunity to express their opinions and participate in the decision making processes. However, this site is virtually unknown by citizens.

To meaningfully involve citizens in the decision-making processes and make genuine dialogue between institutions and citizens both possible and fruitful, communication by European institutions should be restructured, , and made more accessible to the broad public. Rather than providing a single access point to information, new and widely distributed access points should be created via local subsections of 'Your Voice in Europe'.

This would make it possible to distribute information which gives citizens a clear and comprehensive picture of how European directives, policies and tools are implemented at the local, national and regional level.

The adoption of this strategy would allow citizens to contact their local administration to express their position and really feel they can play an important role in EU's political life.

Online consultation is not sufficient to guarantee citizen participation in the decision-making process and often consultation questionnaires are only available only in English. The challenge of citizens' participation cannot be tackled without strong connections between the European Commission and it's DGs and member countries' local authorities, closer to the citizen.

EU should implement more effective tools to raise awareness of its policies, improve citizen involvement in the decision making processes and provide multiple, local access points to information.

Implementation

- Your voice in Europe – created to enable citizens to participate in political debate and to intervene on European decisions – must be properly advertised.
- The 'Your voice in Europe' website should have regional/local subsections where local authorities, which are closer to citizens, can communicate how they are implementing European directives, tools and policies and where citizens' involvement can be useful.
- Each section and subsection of the EU website, and in particular of the European Commission, should link to the 'Your voice in Europe' website.
- Whenever an official document, directive or strategy is published in the official journal it should link directly to 'Your voice in Europe' to ensure citizens have a clear idea of how their local, regional or national governments are implementing EU policies, directives and tools.
- EC tools for involving citizens in energy policy should go beyond online consultations: 'Your Voice in Europe' should have local hubs/offices in all EU regions and calls for funding should be introduced to encourage local authorities to set up participatory processes and activities.

Relevant EU laws, directives, documents

- Your Voice in Europe
- Interactive Policy Making initiative
- Commission's Minimum Standards on Consultation
- White paper: Improving European governance

3 INTEGRATION OF EU ENERGY, CLIMATE AND SOCIAL GOALS IN LOCAL DEVELOPMENT PLANS

Context and rationale

The main goal of the EU funds should be to enable smart, sustainable and inclusive growth, while reducing economic and social disparity between European regions.

Environmental protection funds should be used to reduce greenhouse gases, ensure a more efficient use of energy and natural resources, protect eco-systems and halt biodiversity loss. However funding is often allocated by the European Union to fulfil local needs without taking into account negative environmental impacts. EU funded projects, such as road construction, waste incinerators and airports are frequently harmful to the environment and ecosystems. This issue is particularly prevalent in Central and Eastern European countries.

Disjointed funding priorities and ineffective national implementation often inhibit real social, economical and environmental sustainability [CEE Bankwatch, http://bankwatch.org/, June 2014].

Recommendation

In line with the EU climate and energy policy, when allocating the funds through operational plans, both on national and local level, European Commission should require that climate and social issues (local ownership, local green employment) are integrated in all operational plans as horizontal issues and include relevant indicators in the monitoring process.

Implementation

- The European Commission should require that climate and social issues (such as local ownership, local green employment) are integrated in all Operational Programmes to be negotiated between the Commission and each Member State as horizontal issues and include relevant indicators (such as GDP growth, energy dependence, GHG emissions, energy prices, green employment, green enterprise, knowledge creation etc) in the monitoring process.
- The Member States should prepare operational plans that have climate and social issues integrated into all areas covered. They should also ensure that data collection enables monitoring post-carbon indicators.
- The European Commission should guarantee the transparency of these processes and availability of these documents online on EU and Member States portals.

Relevant EU laws, directives, documents

- European Structural and Investment Funds Regulations 2014-2020, Regulation (EU) No 1303/2013
- Partnership Agreement for the European Structural and Investment Funds in the EU Financial Period 2014-2020, Republic of Croatia, Official Proposal EN_2014HR16M8PA001.1.1

4 CRITERIA OF ALLOCATION OF THE EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF)

Context and rationale

The European Regional Development Fund (ERDF) provides assistance to regions where development is lagging behind and to those undergoing economic conversion or experiencing structural difficulties i.e. where average per capita GDP is less than 75 % of the European Union average.

Nonetheless, GDP is not the only relevant indicator to the economic and developmental state of a region. Some regions in Croatia, for example, have relatively high GDP as a result of tourism, but are nevertheless insufficiently developed when other development indicators are taken into account, such as education, employment, age structure etc.

This means that not all regions of similar GDP have the same capacity to absorb funding and implement similar measures to support the transition to low or post carbon economy. All regions currently receiving European Union funds from ERDF could benefit if a weighted distinction is made between beneficiary regions, based on various development indicators, not only GDP.

Recommendation

When allocating financial support to less developed regions in EU Member States through ERDF (European Regional Development Fund), the European Commission should take into consideration not only GDP of the regions as the key fund assignment criteria, but also several other development indicators, such as employment, educational structure and age structure of the regions.

Implementation

- The European Commission should include more development indicators than just GDP when assessing which insufficiently developed regions need to be assisted through ERDF (such as the UN's Human Development Index, also taking into the account the average education level and life expectancy)
- The Member States should enable monitoring of various development indicators through their national statistics, both in collecting data and in making the data collected public

Relevant EU laws, directives, documents

- Council Regulation (EC) No 1260/1999 of 21 June 1999 laying down general provisions on the Structural Funds
- ERDF – European Regional Development Fund

5 A FUNDING SCHEME TAILORED ON SMALL ACTORS (NGOs, CSOs, LOCAL AUTHORITIES) CAN FOSTER THE DEVELOPMENT OF COMMUNITY ENERGY

Context and rationale

In several EU Member countries corruption is a serious issue, leading to a lack of government transparency regarding national energy strategy and related environmental issues. This leads to unpredictability in energy policy, which is aggravated by poor and infrequent dialogue between public authorities and civil society.

At the same time, shale gas prospective studies and extraction projects have arisen in several EU countries, generating an interesting process of civil society involvement in energy and environmental issues, unforeseen by the authorities. Communities, helped by environmental activists, have gradually become more aware of the risks connected to exploitation of shale gas and are increasingly active in deciding their energy future.

NGOs and Civil Society Organizations have proven to be key players in delivering the EU's strategy on climate change, especially when they work closely with local authorities, closer to citizens' and thus more sensitive to the emerging needs in their communities.

However NGOs, CSOs and Local Authorities often lack of the financial resources necessary for action. Simplified rules, easier access to financial instruments and simplified administration for EU grant schemes and the relevant financial instruments for cooperatives, NGOs, CSOs and Local authorities is the basis required for the development of community power projects.

From analysis of Directive 2009/28/EC content, it is evident that increasing support for NGOs working in partnership with Local Authorities on projects promoting renewable energy is completely coherent and responds to EU priorities and targets regarding energy.

Recommendation

NGOs can demonstrate significant experience working with renewable energy systems and have proven over time their capacity and effectiveness in providing the public with correct, appropriate information and delivering awareness raising:

- EC support schemes should be tailored to the financing of projects run in partnership between Local Authorities and NGOs.
- The European Commission should guarantee more dedicated financial support for the non-governmental sector proposing projects with educational impact in the field of energy and climate.
- A higher level of dedicated financial support for projects on sustainable energy, fostering the establishment of partnerships and relations between NGOs and Local Authorities is also needed.

Implementation

The European Commission should review its funding schemes and rules in order to encourage action by Local Authorities, NGOs and CSOs. Support for 'community power' projects can be introduced to the following 2014-2020 programmes :

- OP what is OP? "Regions in growth": Support for condominiums and community power capacity in public buildings used by local communities, such as schools and community centers. The foundations for this support were laid in the current programming period , but further involvement of local communities is needed, as well as improved transparency in decision making and direct access for citizens to funding. Or where this is not appropriate, the aim should be for citizens to participate in the decision-making process and in the implementation of projects via selection of contractors, technology, budgeting etc. The program should be open to various forms of urban cooperatives, such as parent and manufacturing cooperatives, and a community-led local development approach should be widely used.
- OP "Innovation and Competitiveness": Provide support for cooperatives and a ring-fenced funding resource targeted at SMEs clusters developing small energy projects for on-site consumption and power sale at market prices;
- OP "Environment": Support projects in protected areas of individual or clustered organizations parks in cooperation with localities (eg Parks + residents of the village / villages); demonstration projects; I don't know what this one means!
- Rural Development Programme:– Support projects in rural areas for groups of homes, public buildings, such as schools and community centers, SMEs and cooperatives, NGOs.

Relevant EU laws, directives, documents

Articles and paragraphs extracted from the Directive 2009/28/EC demonstrate that this recommendation is in line with EU priorities:

(6) It is appropriate to support the demonstration and commercialization phase of decentralized renewable energy technologies. The move towards decentralized energy production has many benefits, including the utilization of local energy sources, increased local security of energy supply, shorter transport distances and reduced energy transmission losses. Such decentralization also fosters community development and cohesion by providing income sources and creating jobs locally

(14) The main purpose of mandatory national targets is to provide certainty for investors and to encourage continuous development of technologies which generate energy from all types of renewable sources. Deferring a decision about whether a target is mandatory until a future event takes place is thus not appropriate.

(27) Public support is necessary to reach the Community's objectives with regard to the expansion of electricity produced from renewable energy sources, in particular for as long as electricity prices in the internal market do not reflect the full environmental and social costs and benefits of energy sources used.

(49) Information and training gaps, especially in the heating and cooling sector, should be removed in order to encourage the deployment of energy from renewable sources.

(50) In so far as the access or pursuit of the profession of installer is a regulated profession, the preconditions for the recognition of professional qualifications are laid down in Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications(2) OJ L 255, 30.9.2005, p. 22. This Directive therefore applies without prejudice to Directive 2005/36/EC.

(90) The implementation of this Directive should reflect, where relevant, the provisions of the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, in particular as implemented through Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information (1) OJ L 41, 14.2.2003, p. 26. Art. 14 Information and training. 6. Member States, with the participation of local and regional authorities, shall develop suitable information, awareness-raising, guidance or training programmes in order to inform citizens of the benefits and practicalities of developing and using energy from renewable sources.

6 THE PROMOTION OF RENEWABLE ENERGY STARTS FROM THEIR DEFINITION

Context and rationale

The definition of renewable energy
EU Directive 2009/28/EC on the promotion of energy from renewable sources and the amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, defines as follows:
Art. 2, a) «energy from renewable sources»: "energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases";
Art. 2, k) «support scheme»: "instrument, scheme or mechanism applied by a Member State or a group of Member States, that promotes the use of energy from renewable sources by reducing the cost of that energy, increasing the price at which it can be sold, or increasing, by means of a renewable energy obligation or otherwise, the volume of such energy purchased. This includes, but is not restricted to, investment aid, tax exemptions or reductions, tax refunds, renewable energy obligation support schemes including those using green certificates, and direct price support schemes including feed-in tariffs and premium payments";
Art. 2, l) «renewable energy obligation»: national support scheme requiring energy producers to include a given proportion of energy from renewable sources in their production, requiring energy suppliers to include a given proportion of energy from renewable sources in their supply, or requiring energy consumers to include a given proportion of energy from renewable sources in their consumption. This includes schemes under which such requirements may be fulfilled by using green certificates.

The renewable energy definitions presented in Directive 2009/28/EC are insufficient. According to the definition given by the Directive, renewables are characterized only by the fact that they provide energy from none fossil fuel sources. Renewable energy sources are in fact very different, as are their impacts on the environment. The definition of renewables in Directive 2009/28/EC does not classify energy sources and management systems according to their impact, and therefore member states are not required to give priority to decentralised, community-led power generation.

Recommendation

Renewable energies need to be differentiated according to their different environmental impacts and to the different management system required for their production and distribution. This would allow national strategies, priority support schemes and local planning to give priority to less damaging technologies.

Implementation

In relation to the definition of renewable energy included in EU Directive 2009/28/EC, we recommend that:

- In Art. 2 «definitions», the definition of "renewable energy production and consumption" should be amended to take into account of:

1. The modality of production, which should be based on small scale plants, not concentrated in only one given territory and that must be socially and environmentally sustainable. The Directive should state clearly the need to give priority to networks of distributed plants favoring micro-generation and co-generation plants rather than mega plants or small plants concentrated in a given area. It should stress the importance of this model in order to gain energy independence of final consumers;
2. The modality of use, in terms of efficiency, energy economy and reduction of social and environmental impacts of power plants (giving priority to zero Impact or controlled low impact plants);
3. Environmental impacts should be the basic criteria to differentiate the different non fossil fuel energy sources. This criteria should help create a classification of renewable energy sources based on the degree of contribution of these sources to reduction of air, water and soil contamination;
4. Include a green index, labeling technologies used for renewable energy production, taking into account their level of toxicity, the means for their disposal, their life cycle and the quantity of land use per installed capacity;
5. Refer to energy as a common asset.

- To insert in to 2009/28/EC further elements to define "sustainable energy production and consumption". In particular, new articles on "aims and general national measures for sustainable energy production and consumption", "national action plans for sustainable production and consumption of energy" and on "calculation of energy from renewable sources ratio" could be created and inserted after Art. 5.

Relevant EU laws, directives, documents

EU Directive 2009/28/EC

7 THE ACHIEVEMENT OF ENERGY DEMOCRACY IN EUROPE THROUGH A CORRECT USE OF SUPPORT SCHEMES

Context and rationale

Support schemes for the development of the renewable energy sector
In relation to the different instruments that Member States can adopt to support the development of renewable energy, EU Directive 2009/28/EC in Art.2 k) e l) refers to support schemes such as green certificates and feed-in tariffs. However, such systems often present significant issues in their implementation.

Important limits have been detected in the capacity of green certificates to effectively tackle climate change by promoting real change, not only in the choice of energy sources but also in the economic model used for the production and provision of energy. In fact, green certificates are often used by energy companies to "greenwash" their activities: they continue producing energy from traditional fossil sources (e.g. coal power plants), compensating for their CO2 emissions with the acquisition, or production, of green certificates.

As witnessed in many European countries, incentives based on feed-in tariff would need further regulation in order to sustain the development of the renewable energy sector on an ongoing basis. In recent years, in several EU member states, feed-in tariffs have often been implemented, without any connection to regional and local strategies, to rapidly launch a specific sector by providing very attractive financial incentives. This caused the wild development of a large number of power plants (especially solar) concentrated in one territory, responding to economic interests to the detriment of local and national needs.

Recommendation

In relation to "support schemes" and to "renewable energy obligation" referred to in Art.2 k) and l) of EU Directive 2009/28/CE on the promotion of the use of energy from renewable sources, considering Italy's experience with the system of green certificates (now repealed), we recommend the introduction of a set of criteria for the allocation of incentives, based on the effective production of energy from renewable sources rather than on the acquisition of certificates, in order to encourage energy producers to gradually but definitively abandon the production of energy from fossil sources therefore contributing to the achievement of Europe's 2020 targets on carbon emissions.

Implementation

In Art. 2, k) and i) of Directive 2009/28/CE:

- Eliminate the wording "including those using green certificates" (k) and "This includes schemes under which such requirements may be fulfilled by using green certificates" (l);
- Introduce a reference to the maximum % of land to be used in a given territory to produce energy. Once the maximum % is reached in one territory, new plants should not be able to receive incentives.
- Diversify feed-in tariffs between small scale and large scale projects, giving priority to micro-projects. Feed-in tariffs for biomass and biogases should be assigned only to co-generation projects and only in those cases where energy from biomass and biogases is produced by farmers using agricultural waste.
- Introduce a monitoring system to verify that biogas and biomass plants comply with the necessary requirements to reduce their impact on the environment; in particular, the shedding of final waste should be controlled and monitored.
- Determine that all electric power plants which do not belong to the category of co-generation projects cannot take the legal status of an agricultural enterprise. They must be considered, and therefore taxed, as industrial enterprises.

Relevant EU laws, directives, documents

EU Directive 2009/28/EC

8 A COMPREHENSIVE DEFINITION OF RENEWABLE SOLAR ENERGY TO ENCOURAGE THE DEVELOPMENT OF ENERGY COMMUNITIES IN EUROPE

Context and rationale

Solar energy in Europe

The EU Directive 2009/28/EC lacks of a specific definition of solar energy, in particular in regards with the different types of solar plant that can be installed. A more comprehensive definition of solar energy would help to address the many problems that arise throughout Europe in relation to land use for energy production.

In many EU countries, the major issue relating to the development of solar energy is the "wild" development of solar plants (both mega and "small" plants under 10KW) on agricultural land, caused by the strong incentives for solar power production, with no differentiation between the different types of solar power production and the different dimensions of solar power plants.

Other significant problems that local authorities and citizens deal with relate to landscape preservation issues, in particular in rural and touristic areas. In recent years, European citizens witnessed the development of a large number of solar power plants, big and small, concentrated one given territory, most of the time in rural areas, resulting in a drastic change in the designation of use of such land - from rural to industrial. In some areas of Europe, local authorities have set a maximum % of land that can be used to produce energy: this procedure should be fostered by the EU in all European Countries.

Defining as truly "renewable" only solar plants installed on roofs or on other industrial plants might help to avoid abuses in solar energy development which are mainly driven by the attractiveness of profits offered by incentives and which are generating growing conflicts around land use in several European countries.

Moreover, solar energy is the best source of energy to encourage the reinforcement and further growth of "energy communities". In energy communities (see Chapter 2 – Good Practices of Community Energy in Europe) citizens not only are energy consumers but, as individuals or as a community, they can become energy producers and providers. If a real change in energy production and distribution has to be produced to seriously tackle climate change – as this is one of the main priorities of Europe's 2020 Strategy – the European Commission should foster the adoption of incentives in member countries, to be differentiated by "priority sectors", giving the highest priority to the development of solar power plants installed on roofs and managed by communities and citizens.

In this regard, we believe that the diversification of sources of non-fossil energy based on the different environmental impacts they produce can highlight the advantages of producing electricity by direct conversion of solar radiation through the photovoltaic effect, as it is inexhaustible, non-polluting (since it does not necessitate fuel consumption and therefore it does not produce toxic gases), silent and in harmony with the nature and with the habitat of animals and humans. What about rare earth mineral used and toxic production of panels

recommedation

With regards to solar energy production, the implementation of policies aimed at maximising its strengths is urgent and necessary, in order to also reduce the impact of solar energy generation on agricultural lands and therefore to job provision.

In its energy strategy, the EU should enhance and exploit the benefits of an integrated and functional development of solar power plants – fostering the distributed generation of energy and encouraging the design of solar plants which are integrated and appropriate to the urban environment and privileging small or micro plants for direct consumption rather than for distribution and sale.

These benefits could have a significant impact on the development of "energy democracy" in Europe, but only if they are supported by coherent feed-in policies aimed at guaranteeing public interest rather than private profit. In the solar energy sector the market relationship between producer and consumer should be minor, since the main objective of energy democracy is the unification of the two figures: producer and consumer.

Implementation

EU Directive 2009/28/EC should be emended in the following way:

- In art. 2, «definitions», after letter d) the wording «solar energy» should be added, with the objective to identify the areas for the accumulation and storage of solar energy, in order to discourage the diffusion in order to discourage the diffusion of solar power plants on agricultural lands and to foster the production of solar energy based on the following criteria:
- architectural integration of solar plants;
- installation of micro solar plants in a functional way to the urban environment and design
- exploitation of roof areas on industrial/housing/commercial structures.

- Introduce a system of indicators to define (in each territorial area and following a participatory process that involves citizens in the planning of their territory)the maximum acceptable % of surface land to be used for energy production.

Relevant EU laws, directives, documents

EU Directive 2009/28/EC
Europe 2020 Strategy

9 A SIMPLIFIED GUIDELINESS TO MEMBER STATES REGARDING PROCEDURES FOR SMALL COMMUNITY PROJECTS

Context and rationale

We should rapidly increase our work on climate change adaptation and mitigation. An important way to do this is to change our systems of energy production into one powered by clean renewable energy. For this to happen citizens all over Europe need to play an active part; already hundreds of community energy projects exist across Europe, with communities and citizens owning and running their own renewable energy generation projects. A range of benefits flow from these kinds of projects, from reduced energy demand and emission reductions, to perhaps the most important of all, increased public support for renewables and the availability of finance for investment. Member States where renewable energy has made the best gains are those where citizens have been the most involved, for instance Germany and Denmark. There are higher levels of community trust in projects that are owned locally, and in these cases people are much more likely to accept any negative aspects.

There are three key pillars that contribute to the success of renewable energy projects in Europe. The first is the 2020 national target, which are binding and give long-term investment predictability. The second is the Renewable Energy Directive which helps to remove administrative and market barriers. The third key pillar is the existing guidelines on state-aid for environmental protection (2008-2014) which allows renewable energy producers to overcome existing market failures and economic barriers.

The existing guidelines have proved very useful as they provide sufficient flexibility for Member States to decide which type of support can be best used for each technology, e.g. feed-in-tariffs, and how the level of support is calculated. The draft European Economic Advisory Group report shows that the European Commission is trying to set very concrete criteria for future support, prescribing the most suitable schemes (based on market penetration levels), imposing strict rules on how to participate (bidding process) and how to calculate the appropriate level of support. However, this approach could lead to inefficiencies in the way support is distributed, introduce huge market penetration barriers for small investors and contradict the Directive on Renewable Energy Sources 2009/28/EC.

The reality in most of the member states still shows that bureaucratic barriers, such as planning permissions, and the lack of legal basis are too big for small actors at the local level when preparing energy projects. These actors are both private small investors and local communities.

Recommendation	European Commission should give simplified guidelines to Member States in terms of the procedures and processes for small community projects. When setting a target for 2030, the European Commission should also provide a secure legal basis for community projects, also contributing to a competitive, secure and low-carbon EU economy. This recommendation provides a shortcut to the goals set by European Commission (a binding EU-wide target for renewable energy of at least 27%).
Implementation	The European Commission should provide a proper legal basis for community projects in Member States and after that encourage the sharing of knowledge between different actors, networks (e.g. http://www.climatenetwork.org/) and projects (e.g. http://www.communitypower.eu/en/). Cooperation between interested actors and those who have knowledge is crucial. It is also crucial to consider good practice examples when designing new projects.
Relevant EU laws, directives, documents	• Renewable energy directive (DIRECTIVE 2009/28/EC) • 2030 climate and energy goals for a competitive, secure and low-carbon EU economy