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APPROVE
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Advancing Public Participation and stakeholdeR engagement
fOr the improVement of renewable Energy policies

REPORT ON GOOD PRACTICES

November 2019

Territorial partners

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INTRODUCTION

ABOUT APPROVE

The Interreg Europe project APPROVE considers **awareness raising, capacity building and stakeholder participation** as ways to enable and promote **Renewable Energy Sources (RES)**, tackling barriers such as:

- low level of knowledge in the general public,
- lack of expertise of RES proponents and civil servants dealing with permitting procedures,
- issues of public opposition within approval procedures.

The project will lead to the improvement of **4 Structural Funds operational programmes** with the aim to promote RES development, considering investment priorities related to TO4 "Supporting the shift towards a low-carbon economy in all sectors", and addressing regional innovation strategies for smart specialisation.

The partnership is composed by **3 regional authorities** (Regional Council of Lapland, Region of Epirus, Normandy Regional Council)**, 1 regional energy entity** (Regional public energy entity of Castilla y León), and **a research centre** as advisory partner (Poliedra), covering 5 countries (Finland, France, Greece, Spain, Italy).

Through interregional cooperation, the territorial partners are sharing experience and good practices with the aim of inspiring each other for the improvement of their policy instruments. Such interregional learning process interests the partners and **groups of regional stakeholders** that are involved throughout the life of the project. As a result of Phase 1 of the project (ending in November 2020), each territorial partner will develop a **Regional Action Plan** to be implemented during Phase 2.

ABOUT THIS REPORT

The aim of this report is to present the **collection of good practices** identified by the APPROVE territorial partners, which they believe could be transferred to other European regions to promote RES.

In the general definition provided by the Interreg Europe programme, a good practice is an initiative (e.g. methodology, project, process or technique) which is proven successful in reaching its objectives, tangible results, and with potential for learning and inspiration in other regions.

In occasion of the second interregional workshop held in Ioannina (Greece) on 2 April 2019, the partnership agreed on selecting the practices applying the following criteria:

- initiatives that can help improving regional policies for the promotion of renewable energy sources, working on participation and engagement, awareness raising, capacity building,
- evidence of success in reaching the objective of overcoming existing barriers (lack of awareness, lack of expertise, public opposition),
- discussed with the regional stakeholder group,
- transferability to other European regions (starting from the APPROVE partners, taking into account what emerged in the Report on gaps, needs and challenges and the intended improvement of their policy instruments).

During the third interregional workshop held in Valladolid (Spain) on 25 September, the territorial partners and the participating stakeholders, based on a framework proposed by Poliedra, presented and discussed some selected regional good practices.

The description of such cases, plus others added later on, have been collected in the present Report.

Those considered most relevant are being published on the project website and those that will be validated by the Interreg Europe Policy Learning Platform experts will be available in the online database Good practices from Interreg projects and beyond. If the project partners identify further good practices, it will be possible to add the online later by the end of Phase 1.

The projects partners have been sharing the results of this activity with their regional stakeholder groups. For example, on November 12 the Normandy Region had a meeting with some stakeholders to analyse good practices from other partner regions. A particular interest was raised by some practices proposed by the Lapland region, such as the Collaborative planning for improving social acceptance of forestry practices in state-owned lands, which has as main asset to involve inhabitants in the decision making process.

OVERVIEW OF THE GOOD PACTICES IDENTIFIED

The good practices presented in this report include cases identified by the territorial partners and by the advisory partner.

The first set includes cases:

- in which their regional institutions were actively involved (as promoters, financers or implementers),
- that took place in their region, but in which their institutions were not directly involved (but could be observer, sponsor, or otherwise aware of).

The evident variability in number and type of good practices proposed by the territorial partners reflect firstly their diversity as regard RES development, as seen in the previous Report on gaps, needs and challenges. As expected in the construction of the partnership, the differences are driving the exchange process, where less advanced regions are having high opportunities of benefit, while also the most advanced regions are learning on specific aspects. The objective of the exchange of experience within APPROVE is indeed to help reducing the existing disparities among the involved regions in terms of their economic and social development and environmental sustainability and transition to a low-carbon economy, taking into account their specific territorial features and opportunities.

In addition to such set of good practices, the advisory partner identified some other cases, not related to the territorial partner areas, to complement their variety and point out possible areas of improvement not already covered.

The good practices are a good opportunity for an effective cross-fertilization starting from different perspectives and states of the art, and are valuable when addressing similar challenges.

For communication purposes, the good practices identified have been classified in the following types.

Participatory approaches in planning and permitting procedures	Participatory approaches promote the active involvement of private and institutional stakeholders in the process of problem identification, analysis, planning, implementation, monitoring and evaluation. Such approaches seek to influence planning and permitting processes, with the aim of increasing social acceptance at the planning/permitting stages, while also attempting to improve the planning and permitting process itself.
Financial participation of communities and citizens	This category describes the financial engagement of local communities/citizens. Direct financial participation is to be found where citizens/communities are shareholders or members, for instance through energy cooperatives. Indirect financial participation means that citizens do not directly participate with the profits or losses of the operating company/co-operative, but rather indirectly through loans, bonds and/or crowd investing.
Measures promoting regional co-benefits	Good practices within this category seek to promote a fairer distribution of costs and benefits of renewable energy production, in particular considering local stakeholders. Measures may include for instance the distribution at local level of revenues or tax cuts related the construction of RES plants, and the realization of public facilities developed by RES developers.

Building of agreements/ institutional structures	Such measures promote the establishment or development of institutional initiatives that may act in different ways and functions. Key examples include voluntary agreements, industry self-commitments, services of planning/consulting/ advice, provision of neutral information, mediating conflicts, comprehensive and neutral advisory and technical assistance services for citizens, municipalities and developers.
Knowledge / Capacity building	Good practices aiming at: ▪ improving the level of *knowledge* on RES, for instance gathering and processing data on energy consumption and production, and sharing produced data with local authorities and the general public through effective communication channels ▪ setting up *capacity building* measures, for instance envisaging specific guidelines and training programs. The aim is to improve skills and knowledge of all the actors that may influence RES development, considering in particular civil servants (eg, for managing appropriate RES funding procedures) and potential proponents of RES plants (eg, for successfully participating in ERDF or CF calls)
Education	Good practices that promote education on RES, in particular among citizens and students.
Expositions / Fairs	Events, such as expositions and fairs, organized by companies involved in the RES sector to showcase and demonstrate their latest products and services, recruit new employees, and meet with industry partners and clients.
RES implementations as showcases	Good practices showcasing the design and implementation of RES projects that have a particular demonstration value in the local context, with the aim to transfer know how and knowledge among local stakeholders and citizens.

Note that all the above categories, in variable measure, imply an effect of **awareness raising**, providing information on renewables in general and pointing out benefits at the local level (eg, energy autonomy of the region) as well as at the global level (eg, reduction of GHG emissions), thus creating a positive cultural environment.

Participatory approaches in planning and permitting procedures	**(L3)** COLLABORATIVE PLANNING FOR IMPROVING SOCIAL ACCEPTANCE OF FORESTRY PRACTICES IN STATE-OWNED LANDS **(N6)** WORKSHOP ON ENERGY TRANSITION **(N9)** THE LANGUAGE OF THE NOSE **(A4)** A WEB GIS FOR PARTICIPATION IN ELECTRICITY GRID PLANNING AND PERMITTING PROCEDURES **(A1)** MULTI-CRITERIA DECISION AIDING TO IMPROVE PARTICIPATION IN ELECTRICITY GRID PLANNING AND PERMITTING PROCEDURES
Financial participation of communities and citizens	**(N2)** CROWDFUNDING FOR AN ONSHORE WIND FARM PROJECT **(N3)** A CROWDFUNDING AND CITIZEN-FOCUSED RENEWABLE ENERGY PROJECT **(N4)** JOINT DEVELOPMENT OF WIND FARM PROJECTS
Measures promoting regional co-benefits	**(N4)** JOINT DEVELOPMENT OF WIND FARM PROJECTS **(A2)** TAX CUTS FOR A WIND FARM EXPANSION
Building of agreements/ institutional structures	**(C1)** AN INNOVATE PUBLIC-PRIVATE PARTNERSHIP CONSORTIUM FOR A BIOMASS POWER PLANT **(L1)** ARCTIC SMART RURAL COMMUNITY CLUSTER **(N4)** JOINT DEVELOPMENT OF WIND FARM PROJECTS **(N7)** NORMANDY BIOGAS PRODUCTION PLAN - TECHNICAL COMMITTEE FOR PROJECT APPRAISAL **(A3)** SERVICE UNIT WIND ENERGY & QUALITY LABEL IN THURINGIA
Knowledge / Capacity building	**(C3)** INFORMATION WORKSHOPS ON RES SUBSIDIES **(L1)** ARCTIC SMART RURAL COMMUNITY CLUSTER **(N1)** ORECAN - NORMANDY REGIONAL OBSERVATORY FOR ENERGY, CLIMATE AND AIR **(N7)** NORMANDY BIOGAS PRODUCTION PLAN - TECHNICAL COMMITTEE FOR PROJECT APPRAISAL **(N9)** THE LANGUAGE OF THE NOSE
Education	**(E3)** PV PLANT AS A RENEWABLE ENERGY EDUCATION FACILITY FOR SCHOOL STUDENTS **(L2)** FROM STUMP TO BOILER, BIOENERGY EDUCATIONAL ENVIRONMENT **(N5)** THE ROAD TO ENERGY **(N8)** OPEN DAY IN HONOUR OF GLOBAL WIND DAY
Expositions / Fairs	**(C2)** EXPOBIOMASA - A PROFESSIONAL FAIR IN THE BIOMASS SECTOR **(N5)** THE ROAD TO ENERGY
RES implementations as showcases	**(E1)** BIOCLIMATIC HABITATIONS **(E2)** NZEB BLOCK OF APPARTMENTS **(E4)** BIOENERGY PLANT

REGIONAL GOOD PRACTICES

CASTILLA Y LEÓN (SPAIN)

Castilla y León is the Spanish region with the most wind and hydro power installed, interested in developing also the bioenergy and geothermal sectors.

As a reference, we report here the SWOT analysis concerning the regional RES development and innovation strategies in the sector, developed in the Report on gaps, needs and challenges.

Strengths

- High experience of the business sector of renewable energies in many aspects of its value chains
- Regional public officials aware of the possibilities of renewable energies
- Stability in regional policies for the development of renewable energies
- Existence of reasonable regional public funds

Weaknesses

- Certain public officials should improve their training
- Our companies and professionals present spaces for improvement as regards some skills and capacities in some parts of the value chains
- The general population is sometimes not properly informed about the possibilities and limitations of renewable energies

Opportunities

- Replace all individual gas boilers with systems based on heat pumps
- Feed with photovoltaic solar energy all the institutional buildings
- Value the contributions of bioenergy

Threats

- Future of bioenergy rules and regulations about sustainability or particles emission by boilers
- Opposition to new RES plants (especially wind, hydro)
- Low energy prices make new investments less profitable and competitiveness difficult for RES

C1. AN INNOVATE PUBLIC-PRIVATE PARTNERSHIP CONSORTIUM FOR A BIOMASS POWER PLANT

Main organisation in charge	Castilla y León Region
Location of the practice	León, Castilla y León, Spain
Description of the practice	The "Spanish renewable power capacity auction" allocates a specific remuneration regime to installations for the production of electricity from renewable energy sources in the Spanish electrical system: interested promoter companies agree with the national managing authority a number of MW to be installed for every RES technology at a specific price. Once the promoter company wins its renewable MW, it has to look for the best available conditions for the new RES installation. The Castilla y León government, through its regional energy agency EREN, designed a favourable frame for attracting the investment of a promoter company called Forestalia, which had won the possibility of installing a 50 MWe biomass plant. In particular, the interested territory was the Cubillos del Sil municipality, where coal mines were the main economic activity and two big coal power plants were running until some months before. EREN asked for a loan from the Council of Europe Bank as an intermediary to lend 40% of the total investment to the promoter, for the investment in favourable conditions. Somacyl, a regional environment company, will assure the biomass supply for the facility with negotiated prices for a long term contract. Both EREN and Somacyl took part with the promoter in the engineering design and business plan. Other 25% of the investment come from regional companies as shareholders; the Cubillos del Sil municipality facilitates to speed permits and licenses. The public regional entity for promoting industrial parks offered the land. Some social local opposition appeared through an ecological association during the public administrative procedure and during the first construction phase. The main opposition was related with pollutants and particles. After formal answers through the public administrative procedure, specific meetings took place involving the ecological association, the promoter of the power plant and stakeholders such as forest companies and Cubillos municipalities, and all the issues looks like being solved. The plant will use 280.000 t/year of residual biomass (70% from forest and 30% from agriculture) to generate 321 GWh/year (93.000 families). Not heating use is foreseen. It will have a conventional technology (grill oven), but with a very good performance (38%). The plant running is foreseen by March 2020.
Resources needed	Two years for construction (2018-2020). Total investment 106 M€. 450 jobs, 50 working in the plant.
Timescale	20 years agreement of running and payback conditions of loan (start running in 2020)

Evidence of success	Agreement from the beginning of all the partners of the consortium.
Difficulties encountered	Even if the installation has followed all the legal public procedure from amendments, there was some local opposition.
Potential for learning or transfer	This kind of consortium has been used to attract new RES investments from the auction system established by the Spanish national government in 2016 to a rural depopulated area characterised by recently closed coal mines. Other similar consortiums with other financing funds available could also apply to these auctions. This could be considered as a good practice for other Regions. The implementation of the practice requires the support of an energy agency or a similar entity with technical, economical and policy capacity, and also local support. The assured biomass supply in a long term period and the correct financing are also key elements.
Further information	http://energia.jcyl.es/ EREN, Rafael Ayuste Cupido (ayucupra@jcyl.es)

C2. EXPOBIOMASA - A PROFESSIONAL FAIR IN THE BIOMASS SECTOR

Main organisation in charge	AVEBIOM
Location of the practice	Valladolid, Castilla y León, Spain
Description of the practice	In 2006 the sector of biomass in south Europe started to demand a way for showcasing the biomass technologies and application. AVEBIOM, the Spanish Association of Energy Valorization of Biomass, decided to organise a fair for the bioenergy sector in Valladolid, with the support of the Castilla y León Regional Government. Currently the fair is biannual and gathers more than 15 thousand professionals from bioenergy and related sectors. These is the presence of 30 countries and 500 trademarks, with a total of 30.000 m2 of exhibitions and live technical demonstrations, as well as more than 300 stands. In the same days, there are a lot of parallel events, a biomass congress, monographic seminars, workshops, slots for meetings, poster exhibitions. It is calculated that the fair generates an economic impact of € 10 M in the city of Valladolid. The fair event is an excellent thermometer of the situation of the sector, so while years ago it was more oriented to electricity generation, in recent years it has been consolidated towards biomass boiler facilities preferably. From the beginning, the fair has had a strong orientation towards the foreign market, both towards Latin America and towards the European Union, and there is a special guest country every year. The inauguration of the fair is always supported by high level authorities at regional and national level.
Resources needed	It has a cost of € 3 million fully financed by the fair itself without the need for any public help. However, in the first editions it had a public aid of € 600.000 from the Region and it was organised annually. The resources include: a very big building space for fairs, easy transport connection (train, flights, bus), travel agency agreements.
Timescale	From 2006. Next edition 2021
Evidence of success	- The 2019 edition was the 12th. The fact that it is already in its 12th edition tells us that it is a fully consolidated fair - Consolidated as a reference fair in southern Europe and Latin America - Currently the fair does not need any public financial help; fair costs are covered by biomass companies or stakeholders, collaborators and media
Difficulties encountered	At the beginning, there was a lack of support, even from the media. Once the sector discovered the benefit of the fair as showcase for its bioenergy products, the fair became a success.
Potential for learning or transfer	It is important to support the renewable energy sector not only with investment grants, but with commercial measures.

The presence of the media at this fair may be more effective than a subsidy programme to motivate an entrepreneur or building owner to choose to install a biomass boiler.

The dissemination of technological improvements in a purely commercial environment is one of the best incentives for innovation in the sector.

In order to transfer such type of initiative, it is necessary to have a policy regional support, not only the market demand.

Further information

www.expobiomasa.com

AVEBIOM, Jorge Herrero (Jorge.herrero@expobiomasa.com)

C3. INFORMATION WORKSHOPS ON RES SUBSIDIES

Main organisation in charge	Castilla y León Regional Government - General Directorate for Energy and Mining (DGEM), General Directorate for Budget
Location of the practice	Castilla y León, Spain
Description of the practice	The funds from the ERDF Castilla y León programme 2014-2020 for the promotion of renewable energy focus on two priorities: - promotion of energy efficiency and use of RES by companies; - support for energy efficiency, intelligent energy management, and use of renewable energy in public infrastructure, including public buildings, and homes. The RES subsidies calls consider as target groups: - buildings (but only in communities, non profit entities) - business sector - buildings, businesses or facilities in municipalities located in the "Camino de Santiago" During the previous financial period (2007-2013) it was detected that sometimes a line of subsidies was not completely executed because the information did not arrive to the adequate potential beneficiaries. So in the current period, apart of the traditional media such as local, regional newspapers, on-line bulletins, etc., the Region decided to organise workshops with the different sectors of potential beneficiaries of the subsidies. In order to bring the information about the possible subsidies closer to the beneficiaries, various small workshops were organised, where the key information, advices, dates etc., of the subsidy call were provided. The participants had also the possibility to ask questions. Although the information of the workshop was dedicated to the target group of a specific call, nevertheless it was open to anyone interested. In this way at least one workshop session in each of the 9 provinces in Castilla y Leon was organised, for each subsidy call.
Resources needed	Human resources: 3 people Communication resources: 40.000e in media traditional campaigns Financial resources: 3,4 M€ subsidies
Timescale	2014-2020(+3)
Evidence of success	Applications covered 100% of the subsidy line when this closer dissemination was made.
Difficulties encountered	In some cases, even if the invitation of the beneficiaries was well focused, the attendance was less than expected, especially when involving the business sector.
Potential for learning or transfer	For other European Regions, the good practice could be implemented adapting the dissemination method to their focus groups, for example organising in-situ workshops, and co-organising with the target beneficiaries groups (communities, business

associations, chambers of commerce, clusters, professional associations), depending on the potential beneficiaries of the subsidies.

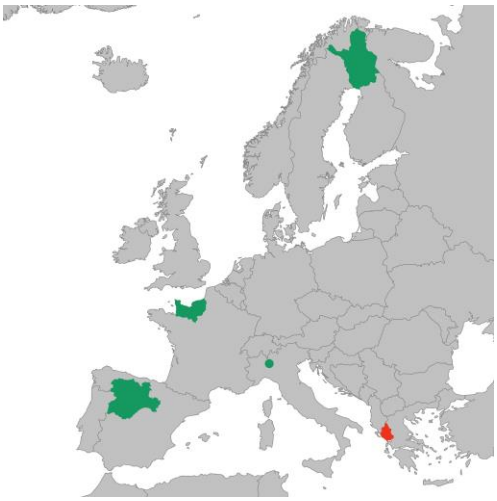
In addition, general media is good for disseminating general information on the grants.

Further information

https://energia.jcyl.es/

DGEM & EREN, Maria Jesus García (garalmr@jcyl.es), Tomas Ciria (cigarto@jcyl.es)

EPIRUS (GREECE)



Epirus is a mountainous region rich in natural resources with a large potential in hydro and a farming sector that could allow the development of bioenergy.

As a reference, we report here the SWOT analysis concerning the regional RES development and innovation strategies in the sector, developed in the Report on gaps, needs and challenges.

Strengths

- Large hydrological potential
- High educated population

Weaknesses

- Low wind/solar potential
- Existing electricity transmission lines inadequate to accommodate new RES developments, although a modernization of the transmission system is foreseen by the National Power company plans for 2017-2026
- Aged population

Opportunities

- Good accessibility to large urban centres
- Investing in RES projects contributes to the policies for the protection of the region's environment and rich biodiversity
- Lots of producers (breeders, farmers, fish farmers) would like to participate in biogas projects

Threats

- Limited availability of adequate sites, since 40% of Region's surface is represented by protected areas
- Strong opposition to RES projects (e.g. wind farms, biogas plants)
- Greek economic situation (banks do not give loans easily and the loans have high interest rates)

E1. BIOCLIMATIC HABITATIONS

Main organisation in charge	Gap180 architects
Location of the practice	Zoodoxos village, Epirus, Greece
Description of the practice	The construction of innovative buildings can help promoting the diffusion of energy efficiency solutions and the use of renewable energies at a larger scale. This group of family houses (120 sq.m. each) was built to ensure the maximum energy economy with passive and active solutions. Target is achieved with more than 50% electricity economy. The choices of the project (floor heating activated by a heat pump via a voluminous buffer tank, active wood fireplace, Trombe wall in the south, sun water panels, and strong insulation) assure the comfort for the users in a mountainous generally cold area at an altitude of 800 m.
Resources needed	150.000 € each (total 450.000 € terrain included)
Timescale	The construction license was approved in April 2004 and the project was completed in November 2005
Evidence of success	Success is evident. The reduced energy consumption is one big step in order to persuade people to build passive houses and use renewable energy.
Difficulties encountered	No difficulties or surprises in conception and construction. A bit hard to sale them due to the unusual shape and scepticism.
Potential for learning or transfer	It was a successful and avant garde operation.
Further information	www.gap180.com Giorgos Papageorgiou (info@gap180.com)

E2. NZEB BLOCK OF APARTMENTS

Main organisation in charge	Duke's Apartments L.P.
Location of the practice	Ioannina, Epirus, Greece
Description of the practice	There are projects that have a particular demonstration value. One example is represented by the Duke's Apartments, which will be built near the city centre of Ioannina (Epirus). One of the objectives of such project is to demonstrate the feasibility of extra energy efficient and RES powered buildings in this region and to transfer know how in the local market. Duke's Apartments L.P. aims at constructing the first multistory building in Greece according to the "Passive House" building standards and at the same time the first building in the city of Ioannina that utilizes article 10 of the new building code (Law 4067/2012) in order to increase the permitted construction area by more than 10%. The building is aimed for touristic use and promises to deliver affordable comfort at a minimum environmental impact. This 850 sqm building consists of fourteen apartments (between 30 and 110 sqm) to be constructed over six floors. The energy requirements of the building will be minimum (certification requirements: 15 KWh per sqm per year for heating, cooling and hot water) at about 10% of the average regional consumption, energy that is expected to be supplied by photovoltaic modules installed on the roof, making it a near Zero Energy Building (nZEB). At the same time, in order to raise awareness, energy consumption and production meters will be installed at the entrance of the building and at the same time, through appropriate signs and brochures, environmentally conscious guests will be trained in order to use the facilities as efficiently as possible. The project is partially funded by the EU (partnership agreement 2014 - 2020).
Resources needed	1M €
Timescale	The project is awaiting for building permit approval. Construction is expected to commence towards the end of 2019
Evidence of success	200K € grant has been approved, designs have been sublimated for approval, 1/3 required approvals have been acquired. The success of this case will be fully accomplished when others will be encouraged to invest in extra energy efficient and RES powered buildings like this.
Difficulties encountered	Project is viewed with skepticism by authorities as it is utilizing legislation that, although active on the national territory since 2012, but is used for the first time in Epirus. Probably due to the lack of training, officials question the environmental impact of the project.

Potential for learning or transfer	- Passive House building standard will be applied for the first time in the region and for the first time at this scale in the country - Article 10 of the new building code (Law 4067/2012) will be applied for the first time in the city Other cities, regions or countries can adjust their building codes in terms of including for example bonuses for buildings that use RES in order to help RES get spread.
Further information	Khalil Khoury (k.khoury@k-ren.gr)

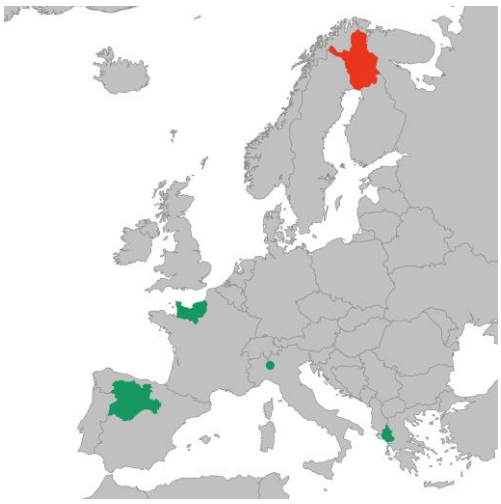
E3: PV PLANT AS A RENEWABLE ENERGY EDUCATION FACILITY FOR SCHOOL STUDENTS

Main organisation in charge	K&P Energy L.P.
Location of the practice	Kontsika village, Epirus, Greece
Description of the practice	K&P energy is operating since 2012 a 352KWp solar energy (photovoltaic) plant, capable of covering the needs of about 90 houses, i.e. the needs of the nearby village. Since the commissioning of the project, committed to the values of corporate social responsibility, K&P Energy is open to the use of the project as location for educational excursions for school students, where, paying special attention to health and safety, they are shown around the plant and given short talk about its operation.
Resources needed	The construction cost of the project is estimated at 600.000 €. A small amount of the company's budget is allocated each year to promote such actions. This is called "Corporate Social Responsibility Project" (costs about 200 € / excursion).
Timescale	Started in 2012
Evidence of success	Local schools were received in a number of occasions during the last 7 years; the exact numbers have not been recorded but the evidence of success is in the knowledge and familiarity with RES that young people are getting from the visits.
Difficulties encountered	No significant difficulties were encountered. Local community welcomes projects regarding education in new technologies and sectors.
Potential for learning or transfer	Student education about renewable energy
Further information	http://kp-energy.gr - temporarily under construction Alexander Pantazis (apantazis@kp-energy.gr)

E4. BIOENERGY PLANT

Main organisation in charge	Bioenergeiaki General Partnership Company
Location of the practice	Ziros, Epirus, Greece
Description of the practice	Thanks to its farming sector, Epirus is a region with high potential in developing biogas projects, which however often encounter a prejudicial public opposition. It is useful to let the population know that, if properly built and managed, such plants can actually help solving environmental problems. One successful case is represented by the Liapatis biogas plant. This plant was built to ensure the environmentally sound management of waste from poultry farms and pig farms, which would otherwise cause significant environmental problem in the nearby area. Achieving the goals in such a unit is not easy. It needs daily monitoring of many variables and proper addition of appropriate substances at regular intervals. Targets are achieved when the activity of the plant is kept at 100% so that the raw material is absorbed and there is a permanent production of electricity.
Resources needed	1.575.000 €
Timescale	The construction license was approved in June 2016 and the project was completed in July 2017
Evidence of success	The awareness of local communities is increasing about the positive impacts that this kind of plants can have, as they see that, in this case: - all of poultry and pig waste is used to generate electricity - clean water suitable for irrigation comes out of the plant after the treatment of waste water
Difficulties encountered	There have been difficulties in construction, such as the choice of the bioreactor type (metal or cement) but also in operation, with regard to the mixing of the sewage and the life of the microorganisms in the reactor.
Potential for learning or transfer	We find this practice interesting because the environmental impact of poultry and pigs waste in the area would be very problematic if this plant did not exist. The lesson for other regions is the great importance of spreading the positive impacts of such projects.
Further information	https://liapatis.services Liapatis Christos - Ntatsis Eleftherios (cliapatis@gmail.com)

LAPLAND (FINLAND)



Lapland is an arctic sparsely-populated region with high technical potential in the bioenergy, wind and hydro sectors; it has a regional decentralised renewable energy plan.

As a reference, we report here the SWOT analysis concerning the regional RES development and innovation strategies in the sector, developed in the Report on gaps, needs and challenges.

Strengths	Weaknesses
- RES production higher than own consumption in electricity - Natural resources (especially wood and hydro)	- Small internal market - Many areas have low property values and people are not willing to invest in changing their heating systems towards RES based sources
Opportunities	**Threats**
- Increasing demand for decarbonised energy that Lapland can produce - The globally growing bioeconomy sector can produce local energy as side streams	- Future of bioenergy rules and regulation's (how are emissions counted, what type of biomasses can be utilised in the production of energy) - Opposition to new RES plants (especially wind, hydro) - Low energy prices make new investments less profitable and competitiveness difficult for RES

L1. ARCTIC SMART RURAL COMMUNITY CLUSTER

Main organisation in charge	Regional Council of Lapland
Location of the practice	Lapland, Finland
Description of the practice	Rural villages in Lapland purchase energy and food from outside Lapland with millions of euros annually. According to studies by the Natural Resources Institute of Finland, nearly 50% of the villages' purchasing power is spent on energy and food. All these euros are fleeing the area, even though a major portion of energy and food could be produced locally in a sustainable and profitable manner. The objective of the Rural Cluster is to cut off the outflow of capital of rural Lapland by creating new business operations in the fields of food products and decentralised energy production alongside the traditional rural entrepreneurship activities. The operations of the Rural Cluster aim to improve the local growth of the value added of rural raw materials in order to maintain an increasing amount of capital with the owners of raw materials. Operations of the cluster are focused on the development of the energy and food sectors. The cluster aims to find solutions for the existing problems of entrepreneurs (such as farmers and forest owners) and to introduce new entrepreneurs to the sector. The tool for this is knowledge development, which covers training, research and the counselling needed by entrepreneurs.
Resources needed	The cluster's work is facilitated by two full-time employees at the Regional Council of Lapland and cluster manager from ProAgria Lapland, a state-owned organisation for agricultural consultancy. The cluster receives funding from the European Agricultural Fund for Rural Development and has an annual budget of around 185,000 euros per year.
Timescale	Spring 2016 - ongoing
Evidence of success	It has brought together municipalities, regional development organisations, entrepreneurs and educational institutions related to the sectors concerned. The cluster has done tours at municipal decision-making bodies to promote local energy production and helped to develop a website that gathers energy advice for citizens, companies and municipalities and links to relevant stakeholders. The economic importance of local purchasing (both RES and food) has been brought to decision-makers in municipalities around Lapland. Cluster also brings information about ongoing projects to support municipalities and entrepreneurs. All communication material brings forward quantitative studies on the impact of local business.
Difficulties encountered	Some municipalities lack the capacity to absorb the support of the cluster organisation and the various forms of assistance available, this is often caused by the lack of resources in municipalities. Entrepreneurs often do not have time to engage, and have lack of resources to understand the support for investments. Lack of investors in the

field of energy is hindering increasing the amount of for example biogas production in the rural areas.

Potential for learning or transfer

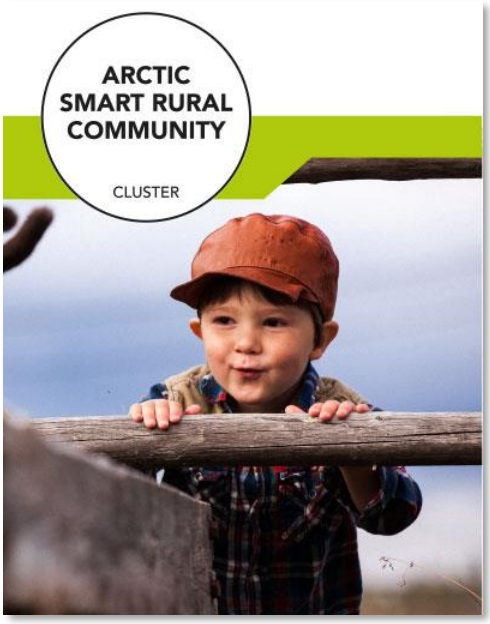
The cluster model in Lapland works well in sparsely populated areas, because it has enabled the cooperation of municipalities in public procurement and project development. The cluster can also collect and develop common objectives and good practices and distribute them across the region.

It has been extremely important to quantify the amount of capital losses in the region, based on scientific studies, to justify the measures and objectives taken by the cluster. The cluster work requires enough interested municipalities, entrepreneurs and active regional development actors, especially in a situation where funding is limited. Without the communication and coordination project organised by the Regional Council, it would have been difficult to organise and gather together the actors of the cluster.

Further information

https://arcticsmartness.eu/arctic-smart-rural-community/

Regional Council of Lapland, Johanna Asiala (Johanna.asiala@lapinliitto.fi)



L2. FROM STUMP TO BOILER, BIOENERGY EDUCATIONAL ENVIRONMENT

Main organisation in charge	Lapland Education Centre REDU
Location of the practice	Rovaniemi, Lapland, Finland
Description of the practice	The aim of the educational environment is to develop the professional skills needed by employees in the bioenergy production chain. The educational environment covers the whole value chain of bioenergy production "From Stump to Boiler". Students from various departments of the vocational school are operating the harvesters, the vehicles transporting of timber from the forest to the terminal, chippers and terminals, the combustion of the biomass and the spreading of ash for fertilising new forests. The student body is made of both youth and adult students (from 15-50 years old) with a large variation in skill levels and experience. The major issue in bioenergy education has been in the training of energy production plant specialists. Students are ineligible to do apprenticeships at energy production facilities, due to strict security rules. This makes passing the knowledge and practical skills for students difficult. Apprenticeship education makes it difficult to send professionals to further education at the school, as this would incur costs for the employers and the employees who are learning new skills. The education is implemented through short-term local teaching periods, which interact with working in a real-life working environment (district heating plant). The learning environment integrates students from the various sectors from gathering biomass, to logistics, to energy production. The main challenge is to keep students in education long enough to develop their skills to the required level. As companies lack resources to education the job, the school is required to pass a lot of information and skills in a short period of time. In addition, the students are from a practical background and often have difficulties in attending long lectures, grasp theoretical knowledge and how to apply it in practice. The professional education in key as burning the biomass in the most efficient way reduces costs and carbon emissions and extends the lifetime of the equipment. The main stakeholders are the local biomass district heating plants which exist in nearly all Lapland's municipalities, around a third of all heating energy in Lapland.
Resources needed	The educational district heating plant is run by 2 members of staff, a full-time teacher and a specialist. The plant was built in 1987. The plant is not profitable and requires money from REDU (around 25-50,000 euros annually). The expenses are covered by tuition costs paid by the state.
Timescale	2012 – ongoing
Evidence of success	The learning environment is unique in its scope, as it is student-run and covers the supply chain from harvester use to logistics to refining biomass and producing energy. This gives the student a learning experience of every part of the production and usage chain. Graduates are in full employment. The major issue is to attract enough students who are able to work in the energy sector and manage multiple skills. REDU has been able to develop the efficiency of the educational plant, and students have been able to

use these skills in their jobs to improve the efficiency and lifetime of district heating plants.

Difficulties encountered

Attracting enough students that are able to attend school for more than two weeks in a row is difficult. This makes designing teaching modules and transferring knowledge much more difficult. Students also have to be in training during different seasons as task vary between winter (heating season) and summer (maintenance work).

Due to lack of capacity, the district heating plants are unable to teach all the required skills within an apprenticeship model. There should be a different model for attracting students that could follow the courses for longer periods, at the same time they could learn other basic technical skills.

Potential for learning or transfer

Building an educational environment is a way to empower students and help them gain skills that might be impossible to learn only through theory, or during employment, due to lack of teaching resources on the job. For district heating plant operators, it is impossible to practice failure management and problem solving in the actual working environment, as the local cities are dependent on the heat produced by the actual district heating plants.

The learning environment has educated students who have gone on to reduce expenses, lengthen lifecycles and reducing in emissions in district heating plants across the region.

REDU aims to export the model abroad. Currently a simulation district heating plant is in development, where the actual existing plant has been modelled so the teaching can be provided virtually.

Further information

www.redu.fi

Vesa-Matti Ruismäki (vesa-matti.ruismaki@redu.fi)

L3. COLLABORATIVE PLANNING FOR IMPROVING SOCIAL ACCEPTANCE OF FORESTRY PRACTICES IN STATE-OWNED LANDS

Main organisation in charge	Metsähallitus
Location of the practice	Lapland, Finland
Description of the practice	Lapland has a high proportion of state-owned forests: 60% of forest area is state-owned, compared to state ownership of 26% of forests in Finland in general. Lapland also has a wide range of interest groups and livelihoods operating in forestry areas, which results in a need to combine different interests and needs as well as to reconcile and negotiate. A special emphasis is put on enabling the traditional uses of natural resources, such as reindeer husbandry and the needs and rights of the Sámi people. Tourism brings about the need of new route networks and landscape planning in forestry. The objective is to combine all these needs and use forestry practices that work best for everyone as well as improve the social acceptance of forestry practices. Metsähallitus, the organisation responsible for managing state-owned forests, uses collaborative forestry planning methods that ensure the local inhabitants and stakeholders have a possibility to influence their living surroundings and the land use. These collaborative methods include cooperation groups, thematic workshops, negotiations and newer types of collaborative planning, such as online map questionnaires to increase public participation. The collaborative method chosen depends on the area in question, the logging volumes and methods etc. In larger scale planning, such as creating the Natural resource plan of Lapland, outside professional facilitation is used in forming and managing a regional cooperation group which consists of representatives of local communities.
Resources needed	Collaborative planning is a policy implemented by the entire Metsähallitus organisation.
Timescale	Collaborative planning was started in the 1980s and is ongoing
Evidence of success	The practice of collaborative planning has been successful in that the public participation has increased, major forest disputes and conflicts have been primarily resolved and the general process of planning forestry activities has been successful in combining different needs. The local communities feel they can influence their surroundings, which has increased the social acceptance of loggings etc. The relationship between Metsähallitus and local reindeer herders has vastly improved since the practice was introduced. For example, locals will now often contact Metsähallitus directly when they have concerns about a forest area or a particular forestry activity. More than a success, Metsähallitus considers the collaborative approach a necessity.
Difficulties encountered	Larger disputes have occurred even in the 2010s over certain areas where loggings have been done, and other difficulties with negotiating with locals have also been present throughout the years despite the collaborative approach. Some areas are more

sensitive than others, and mistakes have happened. For especially sensitive matters Metsähallitus has implemented the use of an outside expert to facilitate the process of collaboration and/or negotiating.

Potential for learning or transfer

If not loggings and other forestry activities, many areas face the issue of affecting the surroundings and livelihoods of local communities in some way. In this sense, the practice of always planning activities in collaboration with the interest groups that are affected is universal and can be transferred to multiple fields and situations. Taking into account the opinions and needs of local communities and stakeholders is vital to achieve social acceptance, and without social acceptance, operating in the area in question might prove very difficult.

Starting a collaborative planning method requires a lot of resources, but in the long run, having social acceptance and a good connection to local stakeholders is extremely important. If there aren't enough resources for more pervasive collaboration, such as cooperation groups and workshops, online questionnaires might be a good start to a collaborative approach.

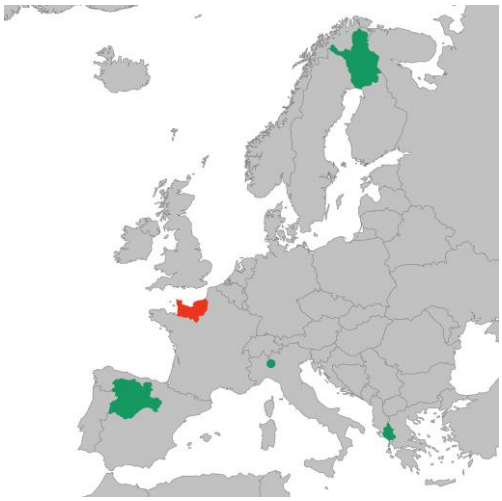
Further information

www.metsa.fi

Kii Korhonen (kii.korhonen@metsa.fi)

Lapin materiaalipankki / Terhi Tuovinen

NORMANDY (FRANCE)



Normandy has a heterogeneous territory with a potential in the wind and biogas sectors and is the first French region in the wood energy sector; it has regional wood energy and biogas programmes.

As a reference, we report here the SWOT analysis concerning the regional RES development and innovation strategies in the sector, developed in the Report on gaps, needs and challenges.

Strengths

- Territorial specificities such as wind, forests, agriculture allow the implementation of RES
- Good cooperation with project holders who are well trained and informed on available funds and procedures
- A lot of stakeholders involved
- Regional plans for wood and biogas energies
- Wood energy sector well structured
- Awareness of general public about main issues of renewable energies and energetic transition (sometimes)
- Hedge wood: only 1% of the resource is currently exploited

Weaknesses

- Heterogeneity of the territory in the development of RES
- Permitting procedures do not allow a correct exchange with the locals
- Some difficulties in managing the complexity of the involvement of many stakeholders and their contributions
- Public opposition to RES projects, especially to wind and biogas projects
- "Low" share of renewable energies in total energy production
- Insufficient public funding capacity
- Lack of awareness of general public about main issues of renewable energies and energetic transition (sometimes)
- High competition between biogas projects and other biomass valorization sectors (example of the composting practices)

Opportunities

- Climate and energetic transition objectives
- Increasing interest in implementing biogas projects

Threats

- Structuring of the citizen opposition at regional level, especially on wind and biogas projects
- Non-support from local elected officials (sometimes)
- Competition with fossil fuels

- Support from local elected officials (sometimes) - Concern of citizens about the environment and the future	- Climate change causing important impacts on local environment (for example disappearance of beeches[1] used for wood-energy over the long term) - Decrease of the hedge wood resource (long-term)

[1] French and Belgian surveys have proved the impact of global warming on beeches, showing that the increase of temperature by 2°C would have an impact on their development that would be moved in higher altitude (or places with more humidity). Since this tree is used for wood energy in Normandy, its disappearance would have an impact over the long term on the field.
http://documents.irevues.inist.fr/bitstream/handle/2042/65336/RFF_2017_69_3_205_218_latte.pdf?sequence=1

N1. ORECAN - NORMANDY REGIONAL OBSERVATORY FOR ENERGY, CLIMATE AND AIR

Main organisation in charge	Biomasse Normandie
Location of the practice	Normandy, France
Description of the practice	The "Observatoire Régional Energie Climat Air de Normandie" was founded by the Normandy Region, ADEME (the French Environment & Energy Management Agency) and the French State as a support to local authorities to embark on their energy transition and to implement their energy transition plans. The Observatory responds also to the need for regulatory follow-up for DREAL (Directions Régionales de l'Environnement, de l'Aménagement et du Logement) and for the Region (the State needs data to know the regional situations as regards air quality, greenhouse gases). ORECAN has four core tasks: - Producing data on energy consumption, energy production, production of greenhouse gases, emissions of atmospheric pollutants. Gathering and processing information and data needed to develop and implement local and regional energy policies and to reduce greenhouse gas emissions. - Sharing produced data with local authorities and the general public through the institution website. - Supporting local authorities as they embark on their energy transition and monitoring public policies (support is also provided via ORECAN points of contact). - Coordinating the Communities of communes involved in the energy transition (training, methodological support, etc). Those territories are especially involved through the "100% renewable energy territory plan". 10 communities of communes are involved in such plan after the call for manifestation launched by the Normandy Region and ADEME partnership. The Observatory is operated by Biomasse Normandie, an association assuming several missions: it develops innovative projects linked with the treatment of biomass (renewable energy projects, waste and biomass valorisation) and by Atmo Normandie, a regional association responsible for the measurement of air quality in the region.
Resources needed	ORECAN's total budget for the three-year period 2018-2020 is € 635,299 including all taxes and charges.
Timescale	Three-year agreement (2018-2020)
Evidence of success	Of the 50 local authorities which have implemented a Plan Climat Air-Énergie Territorial (Climate, Air and Energy Plan), all 50 use data produced by ORECAN, demonstrating the reliability of the data produced and allowing a regional standardisation of the data used (data produced in a homogenous way facilitate the comparison among territories).
Difficulties encountered	Difficulties in communicating the data; the website shows just summarised data without all the details. Secrecy around some data (relating to the Industrial Secrecy Act).

	Lesson learned: tutorials or training have to be implemented for the data use.
Potential for learning or transfer	This system is used in several regions in France, but only partially (for example, some regions do not have data on their renewable energy production). ORECAN could be considered as a good practice for other regions since it allows, at the regional level, a great knowledge about the data produced on the territory. It then allows a comparison with other regions or even among territories inside the Region. The data could then be used for the implementation of regional policies. The implementation of the good practice requires an institution able to produce such data but also to communicate such data to the local authorities and to accompany them in their energy transition. An institution producing data without local authorities' monitoring would not be enough.
Further information	www.orecan.fr ORECAN (contact@orecan.fr)

N2. CROWDFUNDING FOR AN ONSHORE WIND FARM PROJECT

Main organisation in charge	VALOREM
Location of the practice	Towns of Tôtes and Calleville-les-deux-Eglises, Normandy, France
Description of the practice	In January 2018, with the agreement of 2 municipalities, the energy operator VALOREM launched a crowdfunding campaign to raise €100,000 from local residents (with a minimum amount for the collection of €50,000) to contribute to the funding of a wind farm (4 turbines - 8.8 MW). The objectives were to: - Foster the project's strong local ties - Encourage acceptance among local residents - Enable residents to invest in the project and thus to enjoy some of the financial benefits. Supported by the Tudigo crowdfunding platform, this operation took the form of single depreciable bonds, reserved for Normandy residents, with a minimum cost of €50 and a limit of between €2,500 and €10,000 per investor, depending on his/her place of residence (prioritising the most local residents). The interest rate is 4 to 5% and is paid on a half-yearly basis. In a month, the goal of €100,000 was reached.
Resources needed	Resources are required for communicating about the crowdfunding campaign: this communication is provided by the online platform (specialised in such projects), and by the developer / local elected official toward the population in order to collect a maximum amount of funds from the citizens. However, for a wind project, financing from the citizen is not enough, the developer still has to provide an important part of the funds.
Timescale	Summer 2017 – Spring 2018
Evidence of success	- Success of the fundraising (€100,000 in 1 month) - Greater acceptance among residents who feel positively about the opening of two new wind farms in the area - Significant image improvement for elected officials and the developer - Financial benefits of the project for residents
Difficulties encountered	- Lack of training among elected officials regarding energy issues and the financial aspects of renewable energy - Lack of general knowledge about the diverse range of possible collaboration between territories and renewable energy developers
Potential for learning or transfer	Almost all renewable energy projects are eligible for crowdfunding. The following resources are just needed: - Regional planning to advise local elected representatives and local initiatives before and during the crowdfunding campaign - At least one local elected representative to manage the project in the long term

- A developer open to crowdfunding
- A crowdfunding platform specialising in renewable energy (Tudigo, Landosphere, Enerfip, etc.)

Further information

Normandie Energies, Marie Atinault (marie.atinault@normandie.energies.com)

N3. A CROWDFUNDING AND CITIZEN-FOCUSED RENEWABLE ENERGY PROJECT

Main organisation in charge	Plaine Sud Energies
Location of the practice	Town of Bourguébus, St Aignan de Cramesnil and Garcelles Secqueville, Normandy, France
Description of the practice	A citizen-focused project was launched via the social enterprise Plaine Sud Energies to create 3 solar power sites on the roofs of schools in Bourguébus, St Aignan de Cramesnil and Garcelles Secqueville. In a citizen-focused project citizens participate in its funding and are actively involved in its governance. This practice was triggered by the following objectives: - Involve citizens and communities legally and financially in a local renewable energy project - Desire to harness some of the economic benefits of the project for the local area - Residents' desire to take ownership of energy production - Need for education regarding the ecological transition The funds were collected from the citizens of the 3 municipalities, local authorities (municipalities, intercommunality, Regional Council of the Lower Normandy Region), local companies and associations, Energie Partagée (a French network gathering associations as well as citizens and institutions to implement citizen-focused projects). A particular role was played by the ARDES association (Association Régionale pour le Développement de l'Economie Solidaire), which proposed and accompanied the implementation of the project: mobilization of local actors (inhabitants, municipalities, schools ...), creation of the cooperative Plaine Sud Energies, communication, financial assistance. The Nef cooperative bank, which is a player in solidarity finance, granted the cooperative a bank loan for each of its facilities (15-year loan). When used as a site for solar panels, schools can provide educational support for parents and children: digital signage was installed to inform parents and students about the real-time production of electricity. There was a significant consultation before the project, including some citizens undergoing legal and financial training to ensure proper management of Plaine Sud Energies: the citizens are, in such situation, involved in the governance of the company, meaning in the governance of the project; in fact, the point of the good practice is that the citizens, rather than traditional developers, are in the heart of energy production. This allows a great participation of the citizens in the project as well as a greater transparency and an appropriation of the financial repercussion for the citizens.
Resources needed	- Total budget: €224.000 - Social enterprise Plaine Sud Energie: 6,4% - Subsidies and grants: 9.6% - Energie Partagée Investissement: 21,3% - Bank loan: 62,7% - Significant voluntary work, but not quantified - Need for considerable support (provided by ARDES for this project)

Timescale	- Creation of the social enterprise: 2011 - Beginning of rooftop production: 2012-2013
Evidence of success	The company is in profit; profits are being reinvested in new renewable energy projects. Various campaigns to raise awareness about these solar panel installations have been organised. Many people have been inspired by this initiative and have visited the sites and met with the team behind the project. Since 2012, the Plaine Sud Energies project has been a model across Normandy in terms of crowdfunded and citizen-focused renewable energy projects.
Difficulties encountered	- Significant need for legal and financial training - Considerable requirements in terms of communication for effective mobilisation of citizens - Time needed to set up the project could be problematic; in this case, it was mainly done by volunteers
Potential for learning or transfer	With more than 100 projects in operation in France in 2019 and more than 200 currently being developed, the citizen-focused renewable energy project model is widely replicable, although the implementation of these projects can vary radically from one project to another. This type of set-up is easily replicable for solar energy, wind energy, biomass, anaerobic digestion, hydroelectric energy, etc.
Further information	http://plainesudenergies.blogspot.com/ https://energie-partagee.org/projets/plainesudenergies/ Plaine Sud Energies, Patricia Oury (Plainesud.energies@gmail.com)

N4. JOINT DEVELOPMENT OF WIND FARM PROJECTS

Main organisation in charge	Syndicat départemental d'énergie de l'Eure (SIEGE27)
Location of the practice	Eure County, Normandy, France
Description of the practice	One way to encourage acceptance of wind farm projects is to enable local territorial authorities to take ownership of the energy source, optimise the financial benefits for the interested areas, and offer support to local authorities involved in public and citizen-focused projects. With these objectives, a joint development system for a wind farm project in Normandy was set up and implemented via the signature of 3 agreements: - Funding agreement between a group of investors, SIEGE27 (Intercommunal Syndicate of Electricity and Gas of French Eure County) and two existing public-private partnerships, committing them to intervene only on request/with the agreement of the municipalities, to act in a transparent manner and to assume the development's financial risks. - Partnership agreements between SIEGE, municipalities and intercommunalities: financial risks are borne by the group, the municipality's opinion takes precedence in the event of a disagreement, dividends are paid to the municipalities. - Partnership agreement between SIEGE, the wind energy developer West Energies and the public-private partnership SIPEnR (a tool created by several actors, both public and private such as associations, to advise the local authorities in the implementation of citizen-focused renewable energy projects in different sectors: wind, solar, biogas, geothermal). SIEGE27 supports municipalities in their efforts to develop wind farm projects by becoming a signatory of the lease to ensure the successful completion of the project, by committing to pay the dividends to the area and by bearing the financial risk on behalf of local authorities while providing them with access to governance. There is the possibility of direct benefits for the project's citizens by purchasing bonds via a crowdfunding platform or by access to governance via public investment funds such as Energie Partagée Investissement or via the creation of a social enterprise.
Resources needed	Financial resources: - During the development phase: ≈ €400 to 500k with 40% for SIEGE; 30% for the public-private partnerships and 30% for the developer - During the project's funding phase: ≈ several million in equity with 40% for SIEGE; 30% for the public-private partnerships and 30% for the developer Human resources: - During the development phase: SIEGE: ≈ 70 days - Public-private partnerships: ≈ 50 days - Developer: ≈ 200 days

Timescale	2017 – ongoing
Evidence of success	After the first case, other 5 projects were developed with this approach, through agreements among municipalities, intercommunalities and SIEGE27, demonstrating local authorities' interest in this way of working. Some of them would not have taken this route without the support of SIEGE because of a lack of human, legal and financial resources. The partnerships with different developers (currently 2 in place, 2 in progress) of this model demonstrate their interest in this type of joint development.
Difficulties encountered	The discussions with the developers and consequent adjustments can seem to take a long time in the short term (the developer has to change the way the project is developed to include local authorities as well as a public institution, to share the governance of the project) but are constructive in the long term.
Potential for learning or transfer	In France, each department has an energy federation (Syndicat d'énergie) which can decide to support the local authorities with this type of joint development. Otherwise, the national funding tool EnRCiT makes it possible to overcome a potential absence of partners, such as SIEGE, which are ready to take the financial risks of the development phase. EnRCiT is a national fund created for the financing of renewable energy projects implemented – or governed – by citizens as well as local authorities; it is a ten-million fund used to finance the development step and so realise the projects, established and financed by private and public institutions such as ADEME (the French Environment & Energy Management Agency), Caisse des Dépôts, Crédit Coopératif and IRCANTEC (a French pension fund that promote socially engaged projects). For other European Regions, the good practice could be implemented if a public institution takes responsibility to launch this kind of joint partnership. This good practice could be transferred in other Regions with the creation of a national fund to take responsibility if no local public institutions are existing or able to do so. Such fund could be financed by other public institutions, as well as by companies or citizens.
Further information	www.siege27.fr SIEGE27 (siege27-direction@siege27.fr)

N5. THE ROAD TO ENERGY

Main organisation in charge	Normandie Energies
Location of the practice	Normandy, France
Description of the practice	La Route des Énergies (The Road to Energy) has been an event to showcase the strengths and challenges of the energy sector, in the context of the energy transition. The event had a twofold objective: to enable the general public to find out about renewable energies, including the locations where they are produced, and to improve the visibility of the energy sector among young people who are thinking about careers at various different stages (from the baccalaureate to engineering training courses). Sixtyfive companies representing different actors and businesses within the energy sector opened their doors and participated in the event, including all sources of renewable energy: wind, hydrogen, biogas, wood-based, solar and photovoltaic energy. The event was attended by nearly 2.000 people (all audiences combined). The event was organised by Normandie Énergies (a network gathering energy actors in Normandy). The other stakeholders involved include: the Cité des Métiers ("information centre", which provides information for professional course choice), the Rectorat (public institution responsible for an academic territory), two Campus des Métiers de l'Energie (network of schools and universities gathering the different trainings in the energy field), Pôle Emploi (national institution for job researches, which also provides data about the employment market, national unemployment), local initiatives, continuing education organisations (career changes), higher education institutions, universities and companies.
Resources needed	0,5 PTE part-time equivalent for the whole year plus a €20,000 budget for website, communication, etc.
Timescale	15-19 October 2018
Evidence of success	65 companies and technical facilities opened their doors. 2.000 people took part in the event and met with the companies, 68% of which with an education level from baccalaureate to university For a younger audience, 94 professionals proposed a testimony, an explanation about their work, profession for young people currently studying (or planning to study) in the energy field. Questionnaires were sent to the companies; 33% had collected CVs and 91% wanted to participate again in the next edition of the event.
Difficulties encountered	- Complex organisation for the significant numbers of employment/skills event (attendees/companies) - Limited to 5 days (it would be interesting to organise a longer event to raise even more awareness but this would require significant additional human and financial resources)

- Registrations were not properly managed (it was quite hard to organize and manage the event since no registration system was implemented for the event)
- Partnerships work between the employment and education services are also important

Potential for learning or transfer

Operations could be replicated in regions where energy companies have a strong presence and where training is provided. The region should be home to an organisation similar to Normandie Energies, which is able to mobilise economic players within the sector.

Further information

Normandie Energies, Nathalie Queinnec (nathalie.queinnec@normandie-energies.com)

N6. WORKSHOP ON ENERGY TRANSITION

Main organisation in charge	Normandy Region, ADEME
Location of the practice	Normandy, France
Description of the practice	A storyboard workshop was set up involving all parties in the area (elected officials, the public, companies). The storyboard workshop was organised as follows: - 4 panels are displayed, each focusing on 2 major subjects: Energy efficiency and energy sobriety; heat and renewable energy production. - Elected officials have a limited number of GWh credits (to save or produce) to position on each panel and are encouraged to make choices with regard to regional development and investments. - Elected officials must debate and justify their choices in terms of investment and local development. A wide range of actions are suggested: raising awareness among the general public, renovating buildings (BBC [low-energy building] levels 1/2), responsible purchasing, developing wind farms, installing solar panels on household roofs, biogas production (joint generation, injection), wood-based energy. - Discussions and choices made by elected officials lead to the development and implementation of action plans at municipal and intercommunal levels. The objective was to encourage as many parties as possible to focus on energy saving, energy sobriety, renewable energy development and to bring these parties together to tackle the energy transition. Involved stakeholders: The Normandy Regional Council, ADEME (the Environment and Energy Management Agency), ORECAN. Beneficiaries of the practice: elected representatives of the local authorities and intercommunalities, the general public, local stakeholders in general.
Resources needed	The implementation of this practice requires an advance preparation phase, consisting of analysis of potential production and energy savings within the region, to ensure relevant analysis and choices by workshop participants. This practice requires human resources (one to two people) to lead and to offer advice/expertise.
Timescale	2015 – ongoing
Evidence of success	About twenty territories (community of communes) in Normandy use this workshop to develop their energy/climate strategy.
Difficulties encountered	Difficulty in mobilising stakeholders with little awareness of the issues; stakeholders who participate in the workshop often have prior knowledge of and are interested in the subject.

Potential for learning or transfer	This good practice is easily transferable to other regions in France/abroad because the workshop does not depend on the local set-up (policy, systems, regional organisation) and can therefore be replicated in other regions. It requires organisations to take responsibility for and to lead the workshop and to be able to advise the stakeholders in their choices. The organisation leading the workshop must also be able to help elected officials to develop their action plans afterwards, throughout the entire process.
Further information	Normandy Regional Council, Thierry Berthaux (Thierry.berthaux@normandie.fr) Association Biomasse Normandie, Paul Carlberg (p.calberg-ellen@biomasse-normandie.org)

N7. NORMANDY BIOGAS PRODUCTION PLAN - TECHNICAL COMMITTEE FOR PROJECT APPRAISAL

Main organisation in charge	Normandy Region, ADEME
Location of the practice	Normandy, France
Description of the practice	Normandy has the potential to develop biogas projects but is lagging behind at a national level. To encourage the development of feasible projects, the Normandy Region and ADEME have established the Normandy Biogas Production Plan (Plan Méthanisation Normandie - PMN). Areas of focus (information, raising awareness, acceptability, support for project leaders) include the question of optimising project funding. In particular, public funding bodies need to secure funding commitments, some of which are European (ERDF), for projects which are not likely to be blocked or declared not to be feasible. A PMN technical committee has been set up. It meets three times a year. It aims to share information on projects and their feasibility in regulatory, technical and financial terms to provide each stakeholder involved with the project's feasibility and implementation with more security. The PMN technical committee consists of the following parties: Normandy Region – ADEME – State departments (DREAL, DRAAF, DDT, etc.) – Territoire d' Energies Normandie (energy trade unions) – Private banks – Public banks – GRTgaz – GRDF – Normandy Biogas Production Plan operators. The beneficiaries are the project leaders and public funding bodies working within the comitology process for the allocation of public subsidies.
Resources needed	Overall, the PMN costs €546.720 over three years. But this practice only occupies public and private stakeholders' time.
Timescale	2018 - ongoing
Evidence of success	Since the establishment of the PMN, the number of projects has increased sharply which has led to difficulties in terms of the availability of public funding to support them. This practice therefore helps to optimise the use of public funds and to allocate them as a priority to viable projects, thus avoiding allocating and setting aside public money for projects which may face local, legal or financial challenges. It also helps to identify any difficulties with the projects; work can then be done with project leaders to find solutions to these difficulties. Since mid-2018, 30 projects have been assessed, 16 have already been approved for funding and 3 will be approved in the next 3 months.
Difficulties encountered	The inclusion and participation of the private banking sector still needs improvement. Some regional stakeholders participate, others don't. There is limited capacity for reviewing projects because of a high number of projects currently being submitted.

Potential for learning or transfer	In France, this practice has not been well developed, often because of sporadic or absent relationships between stakeholders. Discussions, exchanges of information and reviews of projects received during the funding phase or in advance all help to strengthen their analysis and to secure their funding (funding is only committed for viable projects, funding is optimised and prioritised). For the banking sector, this makes it possible to make public funding (regional, national and European) more reliable and to have information on a project's regulatory elements. Public funding bodies are also able to access this regulatory information. This can sometimes provide the state with technical information obtained during meetings between project funders and project leaders. Overall, it helps to optimise each stakeholder's time within this feasibility/funding chain. Problems when it comes to local acceptance can also be shared.
Further information	Normandy Region, Mickael Taoui (Mickael.taoui@normandie.fr)

N8. OPEN DAY IN HONOUR OF GLOBAL WIND DAY

Main organisation in charge	France Energie Eolienne
Location of the practice	Normandy, France
Description of the practice	Open day events at several wind farms around 15 June, which is Global Wind Day. Visits to the facilities are organised (delivery substation, base of the turbine, sometimes climbing up the turbine itself, although this requires specific supervision to ensure visitor safety), conferences, discussions with local residents who live near the wind farms, celebrations on site. The initiative addresses the lack of knowledge about the wind industry and how a wind farm works. Main stakeholders involved: the owner of the wind farm, as well as the operator, landowners and farmers, local elected officials, local residents, regional residents (at least at an ECPI [public establishment for cooperation between local authorities] level).
Resources needed	Costs covered by the organiser of the open day (the owner or operator of the wind farm). This usually requires supervision by 15 people on site: a technician, an engineer, a communications officer, a project manager.
Timescale	This day or half-day event has been held since 2007 by wind energy clusters but it has not been held every year in Normandy.
Evidence of success	It provides residents with an opportunity to visit the wind farm with an insider; this helps them to understand how this infrastructure works and its purpose; they are more likely to welcome infrastructure which makes sense to them. Participation in this kind of event is always good (100 to 200 visitors per wind farm) and feedback in the local press is positive.
Difficulties encountered	Ensuring that visits are safe, because a wind farm is a facility which is classified for environmental protection, although the public may not be aware of this. Planning communication about the event and its schedule so that visitors know where to go (which wind farm, how to get there, where to park), when, why, etc.
Potential for learning or transfer	The day isn't specific to Normandy, it's organised around the world and could be further developed in some areas. The idea is to appropriate and develop the event so that it becomes more widespread in more regions.
Further information	https://globalwindday.org/ https://fee.asso.fr/actu/journee-internationale-du-vent-2019-global- wind-day/ France Energie Eolienne, Sylvie Meray (Sylvie.meray@fee.asso.fr)

N9. THE LANGUAGE OF THE NOSE – SCHOOL OF ODOUR

Main organisation in charge	ATMO Normandie
Location of the practice	Normandy, France
Description of the practice	Whereas the odorous nuisances are included in the French Law for Air and Rational Energy use, odorous problems are not well treated due to a lack of knowledge on this topic. In the face of the increasing questions and needs from the stakeholders (citizens, local authorities, industrials, …), the Language of the Nose® was developed to reduce the odours mainly due to industrial activities. This sensory method based on a chemical reference framework allows the odours monitoring using human nose as a device. Local residents, company staff, air quality monitoring bodies and assessment experts can learn and follow different odours that can be emitted from economic activities. The first business companies involved in the development of the language were energy industries (refinery, electricity and petro chemistry). A project using both the language and chemical analyses was led by a chocolate factory to reduce their odorous nuisances. As the same molecules were detected with the two methods, the comparisons comforted the efficiency of the language. The partnership now involves a large stakeholders' representation trained to learn and to recognize odours in the environment and many companies have implemented the language (chemistry, bio ethanol, bio diesel, waste treatment, harbour authorities…) to reduce their odorous discomforts. The Language of the Nose® allows to establish exchanges between the stakeholders in order to reduce the odours nuisances and to improve the living environment.
Resources needed	Atmo Normandie has developed the odours topic with one human resource working on environmental monitoring around companies, odorous complains accompaniment and animation of the local stakeholders' network. A training box including all the odours of interest must be acquired by each 'nose'.
Timescale	2016 – ongoing
Evidence of success	The evidence of success comes from the results carried out by the companies using the language to reduce their odorous emissions, from the volunteer "noses" network assessments (significant reduction of discomforts after the treatment of identified odours into industrial sites) and from the number of "noses" trained to the language between 2016 and 2018 (more than 200 "noses" including citizens, local authorities, companies…). In Normandy, 16 companies have trained 55 "noses" to the language.
Difficulties encountered	As the citizen "noses" are all volunteers, regular training sessions are necessary to keep them involved. Friendly competitions between citizen and industrial "noses" or visits in industrial sites and exchanges with the managers are examples of activities used to keep the network active. Some information sessions are also needed to involve new noses on the territory when there is a demand from an industrial or someone else.

Potential for learning or transfer	In Normandy, the Language of the Nose® is considered to be a good practice for companies and for the local authorities who have promoted it in the Plan for the Protection of the Atmosphere. The language can help Public Administration, business companies and citizens to obtain environmental, human and economic benefits. As many different economic activities exist in Normandy (refinery, chemistry, petro chemistry, energy, storage, waste treatment, port authorities…), many different odours are already documented thanks to involvement of the stakeholders. Moreover, biogas production using waste form agriculture is going to complete the language. The language is thus reproducible in other countries (learning and training sessions with all the stakeholders). The language is already used by 40 "noses" of the French air quality monitoring associations as Atmo Normandie. The more the knowledge on odours emissions and behaviours in the air increase, the more odours discomforts can significantly be reduced.
Further information	http://www.atmonormandie.fr/Langage-des-Nez/Methode (in French) http://www.atmonormandie.fr/Publications/Publications-telechargeables/La-Gazette-des-Nez (several publications in French) Atmo Normandie, Jérôme Cortinovis (Jerome.cortinovis@atmonormandie.fr)

ADDITIONAL GOOD PRACTICES

The following are additional good practices identified by the advisory partner.

A1. MULTI-CRITERIA DECISION AIDING TO IMPROVE PARTICIPATION IN ELECTRICITY GRID PLANNING AND PERMITTING PROCEDURES

Main organisation in charge	Ricerca sul Sistema Energetico
Location of the practice	Milano, Lombardy, Italy
Description of the practice	In its aim to decarbonize the majority of its electricity sector by 2050, the European Union has set ambitious targets for the implementation of renewable electricity sources, which consequently creates a growing need for grid extension and reinforcement. However, many existing planning procedures are hindered by stakeholder opposition to grid extension. In fact, building new grid infrastructures implies a multiplicity of risks, costs, and benefits, unevenly distributed among stakeholders, the population and the environment. This asymmetric distribution often resulted in a strong local opposition, generating further difficulties to the economic and technical complexities. The project INSPIRE-Grid investigated and experimented modalities for stakeholder engagement in projects of electric transmission grid expansion, in order to effectively manage conflicts and support public decision-makers and Transmission System Operators (TSOs) in the authorization process. A Multi-Criteria Decision Aiding (MCDA) methodology was developed to consistently assess and compare all the negative impacts and benefits of a proposed infrastructure and its practicable alternatives, and to manage the conflicts.
Resources needed	The overall project costed € 3 461 721; the development of the MCDA regards only a part of the activities
Timescale	October 2013 - January 2017
Evidence of success	Application of the multi-criteria decision aiding (MCDA) tool with local actors' engagement in two real cases of grid development in Norway with the TSO Statnett (the Bamble-Rød and Aurland-Sogndal power lines) and a validation workshop in the United Kingdom with the TSO National Grid (Hinkley-Point C power line). Through questionnaires and feedbacks from the participant stakeholders, the following was elicited:

- a proper use of MCDA can foster stakeholder participation;
- MCDA can be used to properly manage conflicts and support the choice of a good alternative, possibly reducing times and costs necessary to reach a satisfactory decision.

Difficulties encountered

Some public servants and project managers of the TSOs were reluctant to increase the level of public engagement beside the standard procedures (eg. Environmental Impact Assessment) because (1) they feared to lose control of the final outcome, (2) they were not be accustomed to new methods, or (3) they were afraid of changing the procedures set up by law. On the other hand, those who tried understood that the time and effort invested in a better public participation pay dividends by resulting in a more broadly acceptable, implementable, and sustainable decision.

Potential for learning or transfer

Public opposition is one of the main non-technological barriers to the development of RES and in particular to the therefore necessary expansion of the electricity grid. There are several projects across Europe that have been facing delays or have been terminated.

The MCDA methodology defined and used in the INSPIRE-Grid project might be interesting to other regional/national authorities looking for a way to improve the planning and permitting procedures.

Further information

http://www.inspire-grid.eu

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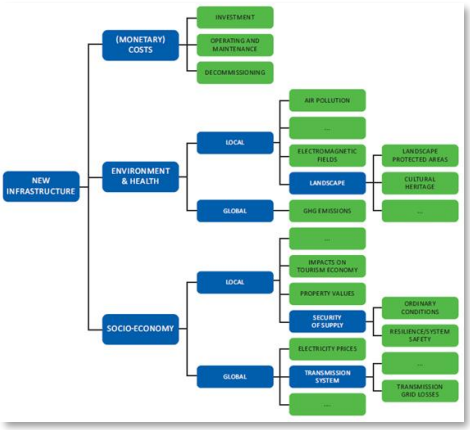

A2. TAX CUTS FOR A WIND FARM EXPANSION

Main organisation in charge	Tula municipality
Location of the practice	Tula, Sardegna, Italy
Description of the practice	The Tula Municipality (Sardegna Region, Italy) hosts the biggest wind farm owned by ENEL Greenpower, located on a hillside 700m above sea-level. The farm, called *Sa Turrina Manna*, began construction in 2003 and finished in 2009. When an extension of the wind farm was announced, citizens and the community called for a more equal distribution of financial benefits of the farm. Through a participatory and constructive approach, the developer, the local authority, Legambiente (a National Environmental NGO) and the local community came together and successfully overcame the barriers at hand. These namely came through contributions by the developer to the municipal budget (2% of the gross income achieved each year would be given to the municipality, accounting for approx. 12% of the local municipalities budget), as well as listening to and acting upon the environmental and landscape concerns of the local population. The allocation of the budget was done in a highly participatory way and the increased revenue meant that local residents had to pay lower proportions of local council tax.
Resources needed	Minimal resources (i.e., staff to manage the engagement and negotiation process) in respect to the considered investment costs and revenues per year.
Timescale	Starting in 2008 and is still in progress.
Evidence of success	2% of gross revenue achieved annually for every kWh (kilowatt hour) produced and fed to the network is given to the local municipality, which resulted in a contribution of 400,000 EUR per year. This resulted in a tax reduction at the local level (1600 households), namely: ▪ no rise in the garbage tax paid for many years; ▪ the municipal part of the Personal Income Tax (IRPEF) is eliminated; ▪ the municipal real estate tax (IMU) is eliminated for main dwellings. Moreover, there have been more than 20 types of local social interventions, such as a "Bonus baby" for new-borns, economic incentives for families with at least four children and young people aged up to 25 years, reimbursement of travel fees for students of secondary schools, educational services (cultural events) for all age groups.
Difficulties encountered	The feasibility of this experience lied in the availability, above all, of the responsible parties (Region, Municipalities, wind farm developer) to open a common path without prejudice to other positions. This process took some time to develop.
Potential for learning or transfer	It is certainly financially feasible for other wind energy developers to also allocate a small share of the income to the local municipality which their installations affect.

Further information	https://www.corriere.it/ambiente/12_maggio_04/imu-tula-eolico-tagliacarne_3aadcb64-95fb-11e1-b2cf-0f42ed87ec02.shtml winwind-project.eu Maria Rosaria Di Nucci (info-winwind@PolSoz.FU-Berlin.de)

A3. SERVICE UNIT WIND ENERGY & QUALITY LABEL IN THURINGIA

Main organisation in charge	Energy and GreenTech Agency (ThEGA) of Thuringia state
Location of the practice	Thuringia, Germany
Description of the practice	In 2015, a Wind Energy Service Unit was set up in Thuringia by the state's Energy and GreenTech Agency (ThEGA). The establishment was in part motivated by the political will to restore trust in local wind energy projects by promoting fair and more transparent planning and decision-making procedures. The Service Unit in Thuringia provides free, comprehensive and neutral advisory and technical assistance services for citizens, municipalities and developers. In addition, in 2016, the Service Unit started to award a voluntary fair quality label for wind energy project developers committing themselves to adhere to certain standards concerning involvement of different interest groups, transparency and fair participation of the local communities. Furthermore, the measures help to bring together developers and communities/citizens and improve the active and passive financial participation of citizens and communities in wind energy projects. For the award of the label, it is required that planners and developers fulfil transparency and participation criteria also including the development of direct financial participation opportunities for citizens and municipalities in Thuringia.
Resources needed	Personnel costs, dedicated to the Service Unit and to the label awarding process. Currently, the Service Unit has a staff of 3.5 full time employed persons. Funding is partly provided by the federal state government and partly by the European Regional Development Fund. The establishment of a Service Unit needs strong and continuous policy commitment and support, organisational efforts, qualified and committed staff, time and funding
Timescale	2015 to present
Evidence of success	The Service Unit has already been very widely used, suggesting there is a strong degree of trust in it. From 2015 to 2018, 102 communities and 180 companies or other organisations in Thuringia have consulted ThEGA, and there were 143 citizen requests. In addition, the label shows growing effectiveness, as it is getting increasingly difficult for project developers to do business in Thuringia without the label for fair wind energy. To date, 50 project developers have been awarded the label. Both evidences illustrate the effectiveness and significance of the measures.
Difficulties encountered	Some interviewed developers (of which one is a citizen energy cooperative) criticised the label. They argue that the label is not strict enough, as it is implemented on a voluntary basis and there are no resources to sufficiently monitor if its guidelines are really met by each developer. Moreover, it is perceived as too basic and low-level, because nearly every project developer in Thuringia has received the certification.

Potential for learning or transfer	For the Service Unit, the transfer potential can be regarded as high. The Service Unit has been contacted for advice by actors from other federal states too. There have been transfer initiatives in other regions of Germany aiming to follow the example of Thuringia by transferring/adapting the concept of a Service Unit, partly in combination with a labelling scheme for developers (e.g. Saxony-Anhalt, Brandenburg, Saxony, Hesse, Schleswig-Holstein). However, the head of the Thuringian Service Unit and some other interview partners emphasize that the design of a unit cannot be transferred without adaptations taking into account regional characteristics. Every federal state or region has its own specific characteristics and challenges, e.g. geographical conditions, financial strength of the region, planning policy, density of wind energy infrastructure, history/culture of energy cooperatives and citizen/community ownership, conflict potentials between different actors, etc. In this regard, it is generally agreed that the national level would be too distant from the municipalities and citizens. The federal state level has been evaluated as the highest possible political level for its operation. There is no common view of whether a national label would make sense, in order to avoid the plethora of 16 different federal state level labels.
Further information	https://www.thega.de/wind-gewinnt/ winwind-project.eu Maria Rosaria Di Nucci (info-winwind@PolSoz.FU-Berlin.de)

The label *Faire Windenergie Thüringen* (Partner for Fair Wind Energy)

A4. A WEB GIS FOR PARTICIPATION IN ELECTRICITY GRID PLANNING AND PERMITTING PROCEDURES

Main organisation in charge	Ricerca sul Sistema Energetico
Location of the practice	Milano, Lombardy, Italy
Description of the practice	Geographical Information Systems (GIS) represent fundamental tools for the study and assessment of spatial relationships and are commonly used in spatial planning and environmental impact assessment. They can be used to highlight interactions between the proposal of a new power plant and populated areas, important landmarks, land contours, existing infrastructures, and so on. A Web GIS is an application that enables the visualization of geographically referenced data through a web interface available online. They do not require any knowledge in geographical data analysis and can be effective for promoting public engagement in the development public infrastructures. UTOPIA is a prototype of a participatory Web GIS, developed in the INSPIRE-Grid project. It focuses on functionalities that support the involvement of stakeholders in the decision-making process, enhance their participation, enable them to interact with the decision-makers and to express their own opinion about possible alternative routes or solutions. Three functionalities, which are not available in standard Web GIS applications, have been implemented: 1. Improvement of standard exploration functionalities to visualise the areas affected by the power line. 2. A tool for sending comments and documents related to a specific location 3. Elicitation of people's preferences about the landmarks to be protected and the computation of an interference indicator, measuring the interference of the proposed infrastructure with the existing landmarks. These extensions could be used in different ways to involve people during a decision making process. For instance, the interference indicator can be used as an input to the Multi-Criteria Analysis.
Resources needed	The overall project cost € 3 461 721; the development of the Web GIS tool regards only a part of the activities.
Timescale	October 2013 - January 2017
Evidence of success	The tool was presented and discussed in five workshops held in four different countries, with a quite varied audience: TSOs, Master students in Management and the Economics of Energy and the Environment, local stakeholders of two case studies (Sogndal, in Norway, and Schwäbisch Gmünd, in Germany). After presenting and experiencing the tool, participants were asked to fill in a questionnaire. The Web-GIS was appreciated for its functionality of capturing geographic information data in an easy and fast way. Its use as an effective tool to elicit people preferences and to implement active participation was discussed in detail and was not always acknowledged. In general,

results suggest that the use of Web GIS potentially increases the perceived justice by stakeholders. The choice of the methodologies and tools and their proper implementation are key factors for an effective participatory process but these tools do not warrant the positive outcome of the process.

Difficulties encountered

Different attitudes were observed in the four countries where the workshops were organised. In general, we observed a more positive attitude in Germany and less positive in the UK. One major problem is that the collected preferences through the UTOPIA Web GIS could not be representative of the affected population due to different levels of computer literacy.

An important issue was that it was not possible to test the tool in a real permitting procedure: in fact, the case studies were real but we were not allowed to use the tool as a part of the formal process.

Potential for learning or transfer

Public opposition is one of the main non-technological barriers to the development of RES and in particular to the therefore necessary expansion of the electricity grid. There are several projects across Europe that have been facing delays or have been terminated.

The UTOPIA Web GIS, in connection to the MCDA methodology (both defined and used in the INSPIRE-Grid project), might be interesting to other regional/national authorities looking for a way to improve the planning and permitting procedures.

Further information

http://www.inspire-grid.eu

Ricerca sul Sistema Energetico, Maran Stefano (Stefano.Maran@rse-web.it) – coordinator of the INSPIRE-Grid project