

Report on financial barriers and existing solutions



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Foreword

By Mathieu Richard (Enercoop)

Implementing a new renewable energy cooperative can often seem an overwhelming task. All renewable energy (RES) projects are rife with obstacles, and the available literature is replete with discussions of barriers to these long-term, highly capital-intensive investments, heavily dependent on imperfect and unstable legal frameworks and on the availability of funding. However, to these barriers common to all RES projects, REScoops add their own constraints, linked to the difficulty of seeding capital from many individual investors, to institutional barriers on the access to equity, to the lack of trust or support of the traditional banking sector, or to the (typically small) size and decentralized nature of the projects themselves.

Breaking down these difficulties and addressing them one by one is the only way to overcome them. Many of these barriers have to do with the context in which REScoops operate, but nearly all can be methodically addressed by determined RESCoop organizations.

Specific instruments successful in one context can often be replicated or adapted in other regions. A more unified RESCoop movement can both mutualise tools and expand the visibility, legitimacy and support for the cooperative model. Moreover, by highlighting good practices already successfully developed in some countries, REScoop 20-20-20 can eventually contribute to sketch a roadmap for an ambitious, albeit progressive, improvement of the regulatory frameworks themselves.

This report concentrates on the obstacles facing the financing of the different phases of a REScoop project. Perhaps surprisingly in this post-credit-crunch era, it argues that the availability of funds is not the main problem. In a slightly provocative statement, the report asserts that the main barriers to financing REScoop projects are not primarily financial in nature. Many non-financial factors (image, technical capacity, and the regulatory traps) indeed affect the financing of projects and combine to prevent or delay the growth of the cooperative model. But this growth is visible and can rely on powerful assets: the motivation and involvement of citizens, the support of public authorities (often at local level), the development of the social enterprise and ethical banking sectors.

Still, a new REScoop project will need funding, in different amounts and forms, from the pre-planning stage through the development, investment and operation phases. Overcoming the financial barriers requires a mix of innovative approaches and dissemination of existing instruments, such as development seed funds or loan guarantee mechanisms. Most of all, it requires an understanding of the specificities of RESCoop projects (starting with their size and including their governance).

Clearly, mainstream banks are not in most cases well equipped or willing to dedicate resources to such projects. This may eventually change, but in the meantime, the creation of targeted instruments that can respond to different types of citizen investment while offering high standards of rigor and security to investors is one part of the solution. The other is a wider collaboration with (and parallel reinforcement of) the ethical and alternative banks, whose DNA makes them more receptive to RESCoop values and constraints. They are, for one thing, more readily available to follow and support smaller projects. The next step is for them to keep developing alongside the REScoops, so that progressively more (and larger) projects can be successfully implemented.

Despite already registering hundreds of cooperatives across Europe, the REScoop movement is still in its infancy. Initiatives like the REScoop 20-20-20 project provide an invaluable help for a change in scale: by gathering experience from many cooperatives in several countries, the project collected a considerable wealth of information on the obstacles faced by such projects, and the solutions found in specific situations. Not all these solutions will be readily available everywhere, but the existing know-how can help jumpstart new cooperatives through the difficult initial phases of implementation; through cooperation, avoiding pitfalls may thus become, if not exactly child's play, at least a less daunting endeavour altogether.

Acknowledgments

This report was prepared by the partners of the REScoop 20-20-20 project in cooperation with financial operators, REScoop project developers, energy experts and cooperative model experts. We wish to thank all the interviewees who participated to this report by sharing their knowledge and experience in the fields of financing citizen-led renewable energy projects.

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Executive Summary

This report aims at addressing the financial market barriers that threaten citizen RES-projects in different EU countries and at revealing the different solutions that already exist and could work to finance RES-e generation projects in areas where they did not yet take off.

RES European legal framework: a common objective with diverging efforts

The European Directive 2009/28/EC setting a European target of 20% gross energy consumption from renewable energy sources by 2020, has reached its first phase of application in the period between 2010/2011. This first phase of the RES Directive illustrates an unequal effort towards RES development in the Member States and while the first interim targets are reached by many Member States, it appears that the future effort towards the next targets will have to be more vigorous.

Moreover, the first national interim targets are only the “starting point” of the application of the directive which “[trajectory gets steeper toward 2020]”. This will implicate to increase the efforts towards RES development for each Member State so as not to fail reaching their objectives (European Commission, 2013, p7).

It is in this context, when the promotion of innovative and effective solutions for developing RES projects development is of key importance on both European and local scales, that the REScoop 20-20-20 project has been launched. Its main objective is to help speed up local renewable energy projects in order to contribute to the achievement of the European 20-20-20 energy goals by increasing the involvement of citizens through REScoop projects.

Financing a REScoop project

REScoop is short for Renewable Energy Sources Cooperative. A REScoop is a group of citizens that cooperate in the field of renewable energy, developing new production, selling renewable energy or providing services to new initiatives. This cooperation can take many forms, nevertheless, the ability to raise capital through local citizens investing in a project is particularly pertinent for REScoops because it allows to directly engage with the local community: not only consult with the citizens or inform them, but to give them the option of being the actual owners of the project.

The notion of ownership strengthens the ties and the responsibility of the local community towards the project's success as well as the issues at stake for the energy transition. Including the citizens in the cooperative as members also helps securing part of the economical benefits of the projects in the local community. The nature of a REScoop and one of its main assets compared to other actors of the renewable energy sector is precisely the fact that it gives local citizens the option to take part in the decision making process and benefit directly from the success of the project and therefore it increases the general acceptance and enthusiasm for RES development.

The particularity of financing RES projects is that the costs of producing electricity from renewable sources (or levelized costs) are for the major part constituted of initial investment costs, the operating and maintenance costs representing a rather low percentage of the levelized cost of electricity (except for biomass and biogas plants). Therefore the REScoops have to be able to foster large amounts of capital almost from the start of the project, when the production revenues are not guaranteed on the short term. This represents a difficulty because investors have to be ready to take the risk in advance, before the project can produce its first kWh.

Citizen investment in renewable energy, a key lever for the energy transition on a local scale

However, a range of funding options is available for RES projects in most countries of the EU. The Equity investment is therefore a key step in a REScoop financing both because it is part of the characteristic of a REScoop to have citizen funding sources but also because financial operators do not fund 100% of a REScoop project through loans. Having a percentage of citizen investment is essential in the financing plan of a REScoop project.

Several possibilities exist in Europe to include the financial participation of citizens in REScoop projects through:

- the buying of shares for equity (through a share offer);
- the direct investment as a private loan into the project;
- a financial guarantee so that the REScoop project can have access to a bank loan;
- a membership fee (annual fees paid by the members of a cooperative).

It has been clearly demonstrated that citizens can have their part to play in financing the energy transition on the local level. But compared to ethical and solidarity-based funding, REScoops must explain that they require investments in equity - whose citizens projects need to develop- which is different from bank savings. They must promote direct citizen engagement in projects and solicitation of public authorities, insisting in the powerful concept of economic democracy. Finally they have to show their difference thanks to the direct-visibility of projects funded – “short-circuit” between investors and the project. A lot of citizens, disappointed by the lack of transparency of the mainstream financial circuits are very interested in being part of such “short-circuits”, even if the risk is a little bit higher.

The barriers to financing REScoop projects are not directly linked to financing instruments

It is important to underline the fact that the main issues hindering the financing of REScoop projects are not primarily linked to financial factors. Financial operators interviewed for this report stressed that the lack of adequate financial tools is not, in their opinion, the main obstacle to finance REScoop projects but that political, administrative, legal and economical factors are the primary bottlenecks affecting the validation of a REScoop project’s financing plan. Although these barriers are not exclusively financial in nature, they do have a direct or indirect consequence for the financing of these projects. In most cases the main barriers for financing projects arise well before the implementation of a financing scheme and have been identified as follows:

Cultural and political factors

- Lack of knowledge concerning the cooperative model
- Lack of legitimacy as a real market player and low trust in the cooperative model as an effective economic alternative
- Level of political support to RES plays an important part in the development of REScoops + political support to citizen-led initiatives

Economic and management factors

- Pre-planning stage barriers
- Lack of guarantees
- Size of REScoop projects

Legal and administrative factors

- Public offering regulation (access to equity capital)
- Administrative barriers: cost and access to the grid
- Unstable regulation (especially public support schemes for RES)

General introduction to the report

REScoop 20-20-20 project

REScoop is an acronym for Renewable Energy Sources Cooperative. We consider a REScoop to be any group of citizens that cooperate in the field of renewable energy. It includes developing new production, selling and supplying renewable energy or providing energy related services. The REScoop 20-20-20 project intends to support all such groups of citizens, if they respect the principles set out in the charter of our project, which you can find on [our website](#).

The REScoop 20-20-20 project was launched in 2012 and is sponsored by the Intelligent Energy Europe program of the European Commission. The goal of the REScoop 20-20-20 project is to accelerate installation of RES energy production capacity, leveraging the cooperative model with local citizen involvement.

One of the work packages aims to make a top line inventory of all REScoops in Europe. These REScoops are encouraged to provide also a more comprehensive profile, which will be openly accessible through the project's website. This allows existing and new REScoops to connect with each other and exchange knowledge. The database is growing every day. The database is not only important for the exchange of information, but also because a more complete listing of REScoops in Europe will demonstrate the social, political and economic power potential of the REScoop movement.

Complementary to the inventory of REScoops in Europe and the best practices report there is specific and more in depth research on best practices, business models and community engagement. The research into these specific areas will result in several reports, handbooks and a toolbox that will help citizens with these critical aspects of creating and managing REScoops.

Challenges for financing REScoops

Financing a project is one of the key steps in creating a REScoop, although many REScoops' project developers indicate that they are facing obstacles to finance their initiative because of different reasons. And while the financing phase is crucial to each project, citizen initiatives are more or less successful depending on the country where they are undertaken and the technology they use. This report's main objective is to give an overview of the barriers REScoops can face to finance their projects and the solutions that exist to overcome these obstacles. Many factors have to be taken into account in order to assess the issues hindering the development of REScoops and comparing the situation in the different European countries is a delicate task. Indeed, the data needed to be able to rigorously compare the context in which REScoops are created in Europe is manifold and not always useful to understand the dynamics to which citizens are confronted to set up renewable energy projects. Therefore this report is mainly based on empirical research through the feedback of stakeholders involved in the financing of REScoops in the different countries included in the study. The present report does not try to give an exhaustive assessment of the barriers and solutions to financing REScoops in Europe, but to highlight the major obstacles that have been identified by the partners and interviewees during the research.

Structure of the report

In order to comprehend the context into which the REScoop projects are created, the report will first outline the European legal framework into which renewable energy citizen-initiatives are developed and highlight the major differences in the application of the European regulation per country. So as to describe the specificities of financing a citizen-based initiative, the report will sum up the main key points related to citizen investment and to the type of financing that has to be put in place for a renewable energy project. The report will then analyze the main barriers that hinder the financing of REScoop projects and highlight existing solutions in the countries included in the study.

Methodological approach

The scope of the research undertaken for this report was deliberately restricted to 10 European countries including the 7 countries of the partners of the REScoop 20-20-20 project's Consortium: Belgium, Denmark, Germany, France, Italy, the Netherlands and the United Kingdom; as well as the countries in which pilot projects have been selected: Croatia, Greece, Spain.

The methodology used for this report is based on qualitative data gathered through preliminary reports. A preliminary report per country included in the scope of the study was constituted through literature reviews and interviews. The ten preliminary reports helped set up a framework with key information in order to have key context information for each national framework, they are available in the Toolbox of the REScoop 20-20-20 project. The interviews conducted during the research were either questionnaires or semi-structured interviews from the following categories of actors:

- Financial operators
- Regulatory agencies
- REScoop project developers
- Energy experts
- Experts on cooperative model
- Local authorities
- Financing actors of citizen projects out of the energy scope
- Non-citizen RES actors inside the energy scope

The report also draws on the results of the first study undertaken in the REScoop 20-20-20 project on REScoop Best Practices¹.

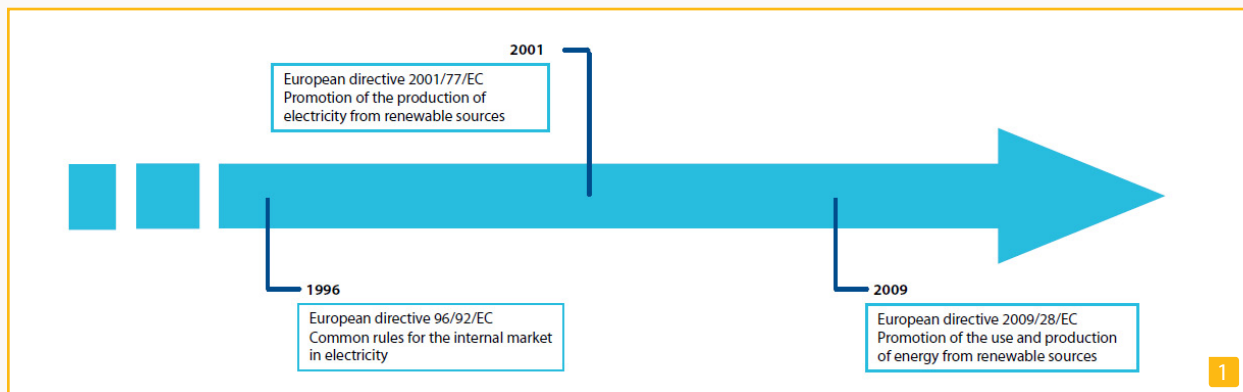
¹ See REScoop 20-20-20 project WP2 report on Best Practices

I. Financing REScoop projects in Europe

Overview of the European legal framework

Recent European Directives that have had an impact on the RES framework

The legal framework for energy and more specifically for renewable energy growth in the European Union has changed various times in the recent years. This European legislation has permitted quantifying the type of efforts needed to adapt the European market for energy as well as encouraging more firmly the implication of each country into the energy transition. Below is a short description of the recent European Directives that have had an impact on the RES framework on an European scale.



European directive 96/92/EC - Common rules for the internal market in electricity

The Directive 1996/92/EC established a legal European framework for the internal market of electricity and had a major impact on the electricity market of the Member States. The main objective of this directive was to open the electricity market to competition, giving a new framework for the production, supply and distribution of electricity on the national scales. Opening electricity markets to competition allowed new actors to enter the energy market more easily in countries where the concentration of activity through few stakeholders was high or with a monopolistic system. It also aimed to institute a more equal access to the Distribution and Transport grids and give a wider choice of suppliers to the consumers with transparent tariffs.

The Directive 96/92/EC was replaced by the directive 2003/54/EC and by the directive 2009/72/EC.

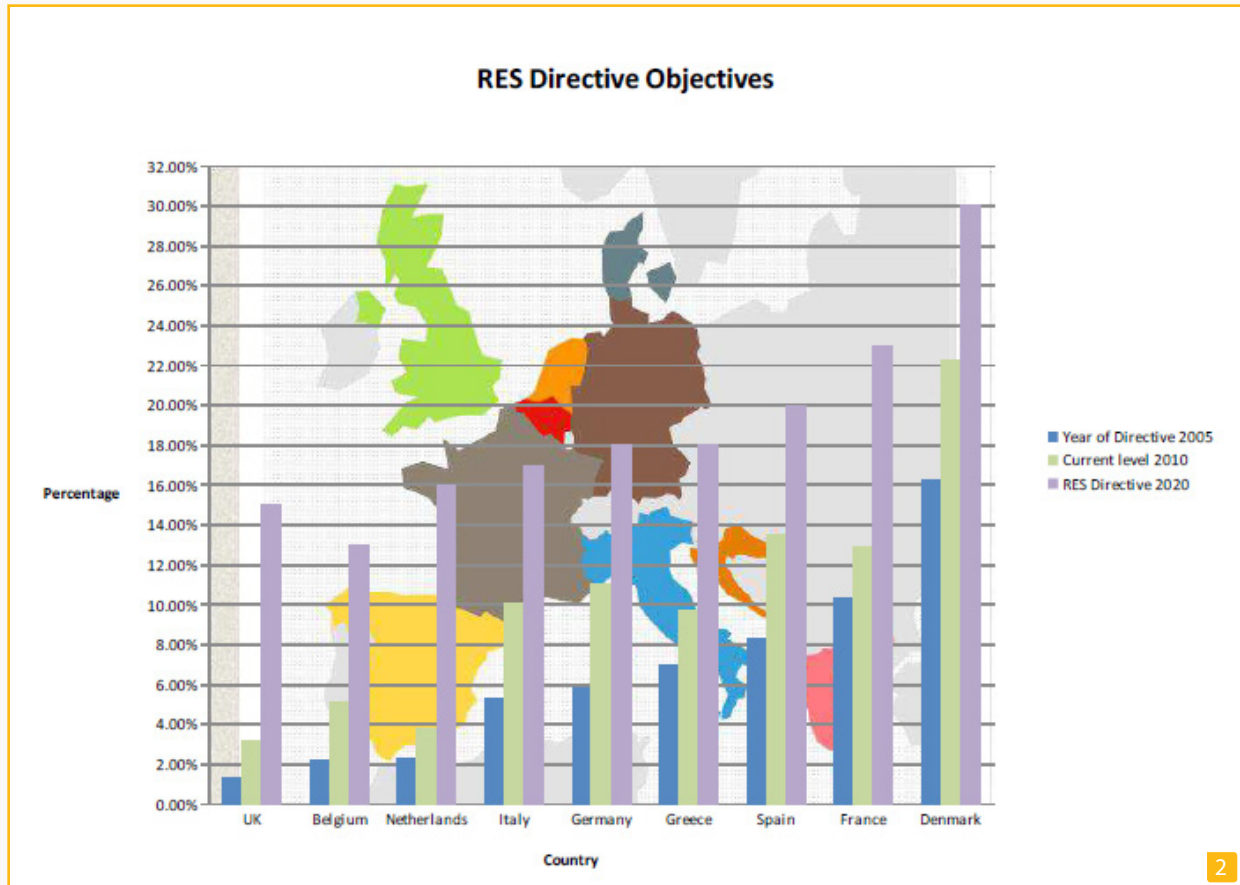
European directive 2001/77/EC: Common rules for the internal market in electricity

In 2001, the EU adopts the Directive 2001/77/EC, establishing national targets on the percentage of electricity produced from renewable energy sources. This Directive, most commonly known as the RES Directive institutes non binding targets for 2010: *"If all Member States [met] their national targets, 21% of total electricity consumption in the EU [would] be produced from renewable energy sources by 2010"* (European Commission, 2007).

This Directive is one of the direct implications of the EU's involvement taken during the Kyoto Protocol in reducing greenhouse gas emissions. However the targets of the 2001/77/EC Directive were only indicative and not binding targets. Most of the EU Member States did not manage to reach their indicative targets for 2010 and in 2006 the gross energy consumption from renewable sources leveled only at 14.7%. A Renewable Energy Road Map was then published by the European Commission in 2007 - [COM(2006) 848 final] – for a long term renewable energy policy for 2020 with national binding targets which led to the Directive 2009/28/EC.

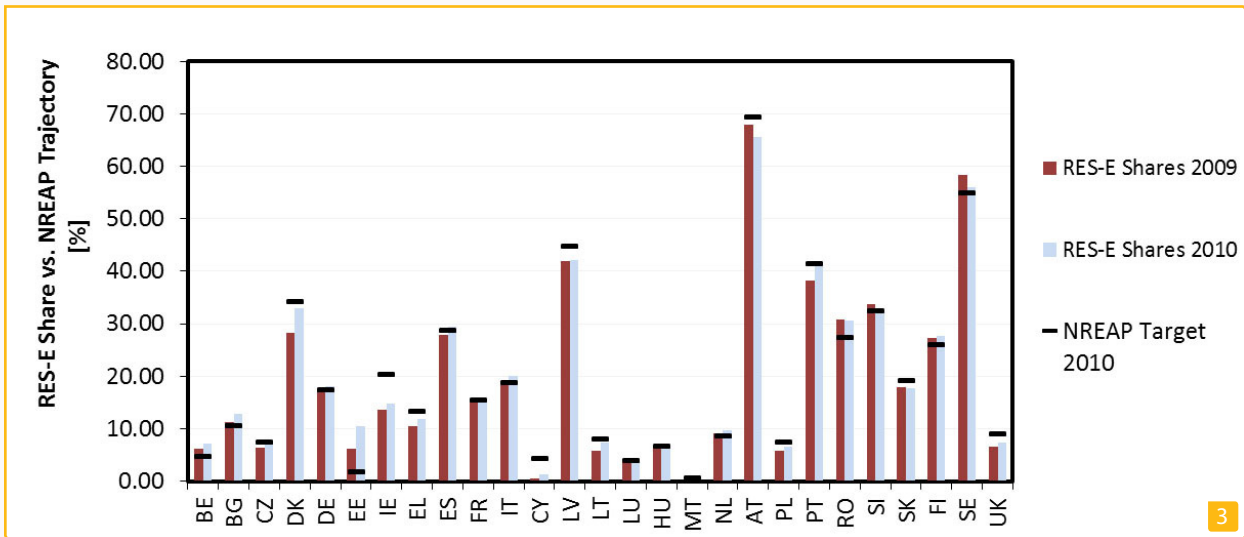
European directive 2009/28/EC: Sets objectives for 2020

Therefore the Directive 2009/28/EC established a general framework for the development of energy from renewable energy sources with national implications for each Member States: "The EU has the target of generating 20% of its energy consumption from renewable sources by 2020. Member States each have different individual targets to allow this overall target to be met, and they are obliged to provide detailed roadmaps describing how they will meet their legally binding target. The roadmaps contain sectoral targets, the technology mix they expect to use and the trajectory they will follow" (European Energy Agency, 2012).



The 2020 targets have been divided into several interim targets established through the energy produced with renewable energy sources in the Member States at the time of the Directive (biennial interim targets have been set for every Member States). These targets have also been confirmed and planned on the national level by all Member States through National Renewable Energy Action Plans (NREAP) that are also used to compare the actual growth of energy produced from RES to the national targets planned.

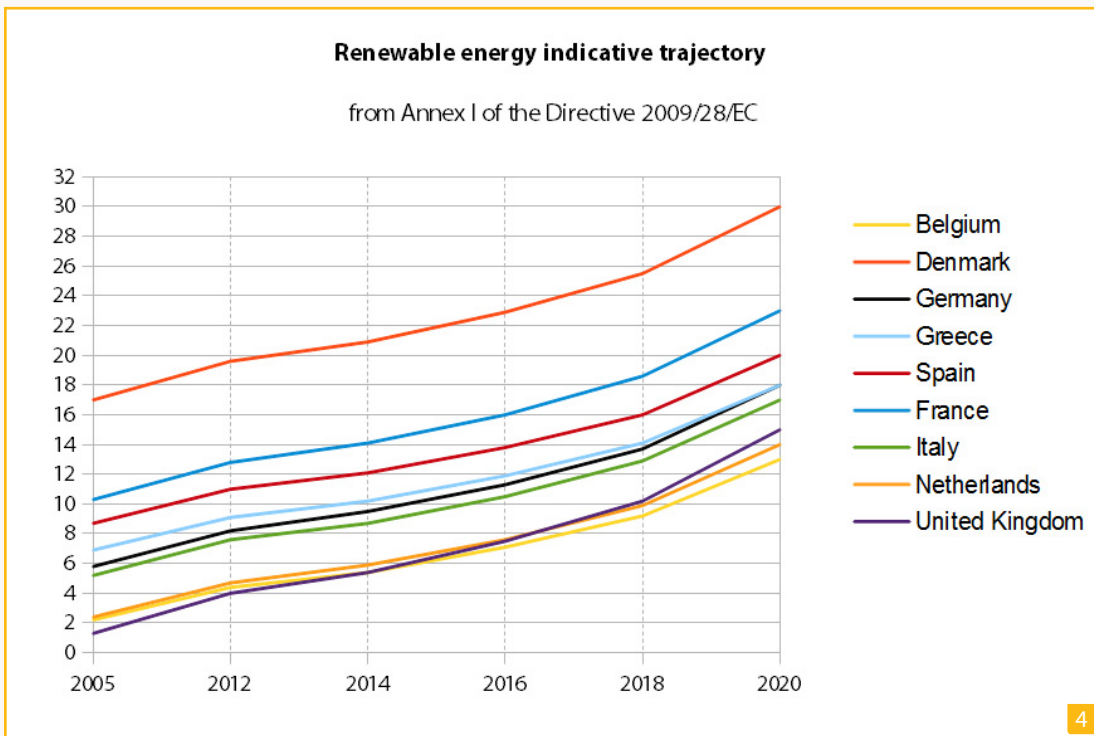
That way, the first interim report has been handed in for the year 2011 for each Member State and a general assessment can be done. For instance, in the electricity sector several Member States have exceeded their interim targets for 2011/2012 including Belgium, Germany, Italy, the Netherlands and Spain. Whereas others didn't reach their planned interim targets as illustrated in the graph below (European Commission, 2013, p4).



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This first phase of application of the Directive 2009/28/EC illustrates an unequal effort towards RES development in the Member States and while the first interim targets are reached by many Member States, it appears that the future effort towards the next targets will have to be more vigorous. In the Renewable energy progress report from the Commission to the European Parliament and the Council several remarks underline the fact that: *"[If it can be concluded that overall (...) there has been a strong initial start in EU renewables growth (...) However, as we look at their future evolution, it seems that the economic crisis is now affecting the renewable energy sector, particularly its cost of capital, as it has all other sectors of the economy. This, combined with ongoing administrative barriers, delayed investment in infrastructure and disruptive changes to support schemes, means further efforts are needed to achieve the 2020 targets.]"* (European Commission, 2013, p6)

Moreover, the same report also highlights the fact that the first national interim targets are the *"starting point"* of the application of the directive and that *"[trajectory gets steeper toward 2020]"*, which will implicate to increase the efforts towards RES development for each Member State not to fail reaching their objectives (European Commission, 2013, p7).



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In order to fully introduce RES in the European energy market, the third energy package of Electricity and Gas needs to be fully implemented. As shown through past experiences -above mentioned-, a new framework for 2030 should include binding targets to push forward Member States initiatives in an organized and efficient way. These binding targets will need to be enforced by remuneration schemes helping RES through their initial phase without generating long-term dependency. Targets should be set on energy efficiency (reduce at least a 35%), renewables (produce a minimum of 45%) and greenhouse gas emission (reduction of a minimum of 50%).

National legal frameworks for application of the 20-20-20 objectives

Member States have not only established national targets to reach the 2020 objectives of the EU energy package, but many have also established local or regional targets and action plans to reach these targets. Some countries have also set either a higher objective to reach than planned in the 2009/28/EC Directive or policy plans on a longer term than what the EU legal framework establishes.

In Denmark, the role of political support to the development of RES has been underlined as a fundamental criterion for the efficiency of such projects. This is true on different scales but it has been particularly true on the national scale with a unanimous parliamentary support towards the objectives for 2020, but for 2030 and 2050 as well. The Danish targets for the long term have been set to a very high standard compared to other Member States with 100% renewable energy in the energy and transport sectors by 2050 (Danish Energy Agency, 2012).

In Scotland, the government policy is to aim for the equivalent of 100% of the nation's gross annual electricity consumption to be delivered by renewables by 2020. Moreover, they have also set an objective of reaching 500 MW of the capacity owned by citizens² and a government loan scheme that eligible groups can access for early stage development which they only have to repay if their project achieves consent. Another fund then provides construction loans which are subordinate to commercial loans.

Croatia has also set up targets for RES development before becoming an official member of the EU in July 2013 through the Energy Strategy of the Republic of Croatia adopted in 2009 (OG/130/09) which plans for the energy policy until 2020.

The political will is a key criterion for the impulse of such schemes on local and national scales; the countries included in the study have had different approaches and different levels of implication towards the development of RES. If a policy is put in place to foster the development of RES, it is not always followed by adequate public financial schemes to encourage its implementation. The development of RES through national policies includes the development or strengthening of financial support toward RES – and more particularly RES production.

How to finance a REScoop?

Different types of REScoops, different financing plan (supply, production, etc.)

As mentioned in the definition of a REScoop in the introduction to this report, several types of REScoop models of activity exist: "It includes developing new production, selling and supplying renewable energy or providing energy related services". We can identify 3 main types of activities for the purpose of this report:

- Producing energy
- Supplying energy
- Providing energy related services

² www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables

These three examples are the main activities that REScoops in Europe usually do, they entail different types of financing plan but they can be combined in order to provide a wider source of revenues or a different scale for a project. For instance a REScoop which transports or supplies energy has a different business model than a REScoop solely focused on producing energy because the activity of supplying energy is a source of revenue for the project as well as producing the electricity. It is the case for instance of the Belgian REScoop Ecopower, which combines production and supply of electricity or of the Italian REScoop E-Werk Prad which produces energy and owns the local grid.

Nevertheless, one of the characteristics of citizen-led projects is often that they start with a rather specific objective for their first project and later develop a larger model. It is especially the case with REScoop projects which produce energy. The production model of REScoop are probably the most frequent type of REScoops encountered in Europe, given that the appropriation of energy production is often a primary motive for citizens to get involved in REScoop projects. Therefore this report will mainly focus on the production model of REScoops and most particularly the REScoops generating electricity.

Key steps for setting up a REScoop project

The key phases for the development of a REScoop project can be identified as follows:

1. The pre-planning phase
2. The development phase
3. The construction phase
4. The operating and maintenance phase

And each of these 4 phases can be divided into different steps. Each of these phases demands a different type of financing, because of their different nature, but also because of the nature of the financing that corresponds to the level of risk taken by the investors.

Phase	Description	Type of financing	Challenges/level of risk
1. Pre-planning	<ul style="list-style-type: none"> • Project planning • Identification of site/ type of RES 	<ul style="list-style-type: none"> • Grants • Soft loans • Self financing 	<ul style="list-style-type: none"> • First phase of the project, most risky part of the project to fund, investors are not often willing to risk investing in the early stages of a project • Financial guarantees needed by financial institutions in case the energy production does not repay the interest costs of the loan • Patrimonial guarantees requested by banks
2. Development	<ul style="list-style-type: none"> • Feasibility study • Business plan • Permitting procedure • Grid access permit 	<ul style="list-style-type: none"> • Equity investment • Grants • Loans • Seed capital 	
3. Construction	<ul style="list-style-type: none"> • Construction • Connection to the grid 	<ul style="list-style-type: none"> • Loans • Grants • Venture capital 	<ul style="list-style-type: none"> • Construction risks: financial operators are willing to take on construction risk often subject to their appointment of an independent consultant to undertake due diligence on the contracts, business models, etc (has to be taken in charge by the REScoop).
4. O & M	<ul style="list-style-type: none"> • Production • Maintenance 	<ul style="list-style-type: none"> • Revenues from energy production • Public support schemes for RES 	<ul style="list-style-type: none"> • Revenues • Regulatory risks on public support schemes • Financial viability of the installer and the manufacturer and credibility of their warranty

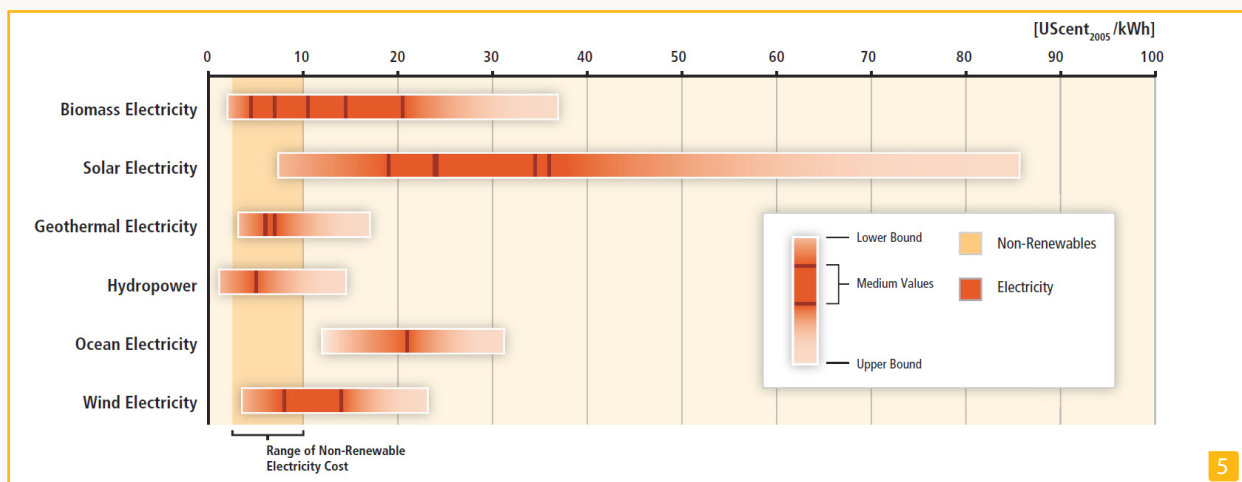
Capital intensive activity of REScoops

The costs of generating electricity from a renewable source in a production project are mainly linked to the investment costs and the operating and maintenance costs, given that the fuel costs are in most cases non-existent (apart from biomass).

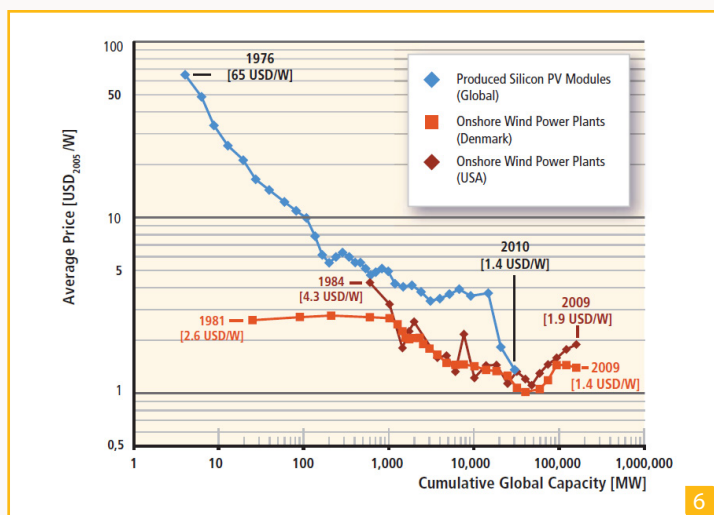
As illustrated in the graph below from the IPCC report on RES and Climate Change mitigation (IPCC, 2011, p12), compared to non-renewable sources the range of levelized cost of energy for renewable energy technologies is still higher for certain types of RES, such as technologies related to ocean power sources (wave, tidal, etc.). However it is important to underline the fact that RES technologies are becoming more accessible and competitive with non-renewable source technologies.

The medium values per type of technologies indicated on the graph refer to different type of technologies, for instance the lowest medium value for wind electricity is for onshore wind turbines and the highest is for offshore wind (for more information on the different medium values per type of technology please refer to the IPCC summary for policy makers).

Moreover, the graph does not detail the different types of levelized cost for producing electricity from non-renewable sources but recent technological orientations in the building process of certain types of technologies, like nuclear based EPR for instance, show that the cost of new non-renewable energy installations could lead to a higher levelized cost for electricity from non-renewable sources than in the past.



The cost of certain types of technologies has drastically lowered in recent years such as PV modules and wind turbines as shows the following graph:



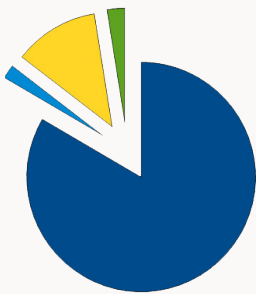
The levelized cost of electricity from renewable sources are for the major part constituted of initial investment costs (around 95%), the operating and maintenance costs represent a rather low percentage of the levelized cost of electricity (average around 5%), except for biomass and biogas plants.

Therefore the REScoops have to be able to foster large amounts of capital almost from the start of the project, when the production revenues are not guaranteed on the short term. This represents a difficulty because investors have to be ready to take the risk in advance, before the project can produce its first kWh.

The initial investment costs in most production projects have to cover for the following type of expenses:

▪ Example of a wind power project

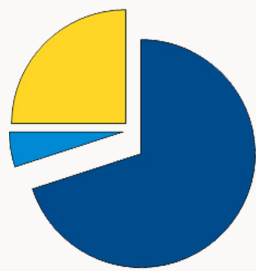
Expenses	Rough estimate	Example (small wind project)
■ Equipment + construction expertise	75-90%	Wind turbines + material for construction of the plant
■ Connection to the grid	1-3%	Depends on the distance of the RES site to the grid
■ Pre construction permit development studies	10-20%	Includes feasibility studies and impact studies (noise, environmental, etc.)
■ Post construction permit studies	1-4%	Includes financial and legal studies and audits



In addition to this type of expenses, the financing costs can also include dismantling costs (which are often linked to regulatory rates) and financial costs. This example is of an onshore wind project, however the costs for an offshore wind project are higher (especially depending on the distance of the wind turbines to the shore). Also, it has to be pointed out that these rates can vary depending on the size of the project, the number of wind turbines and other factors.

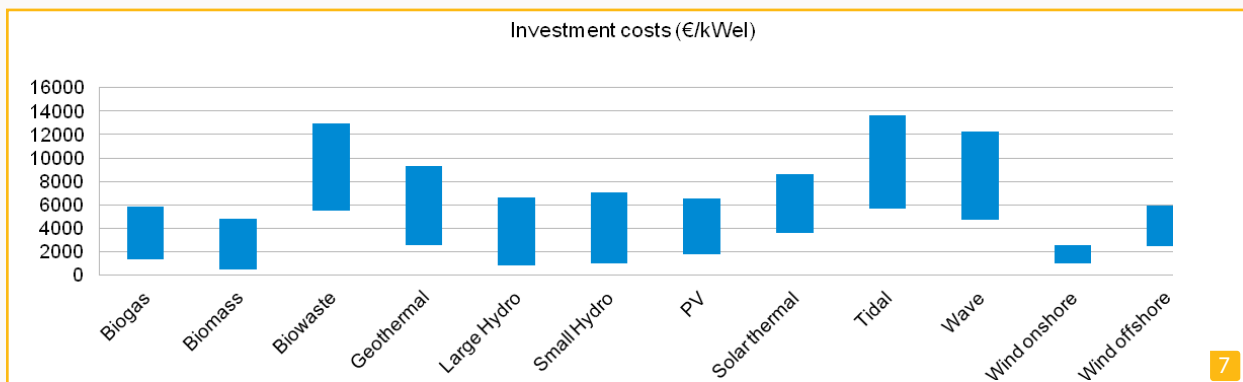
▪ Example of a PV power project

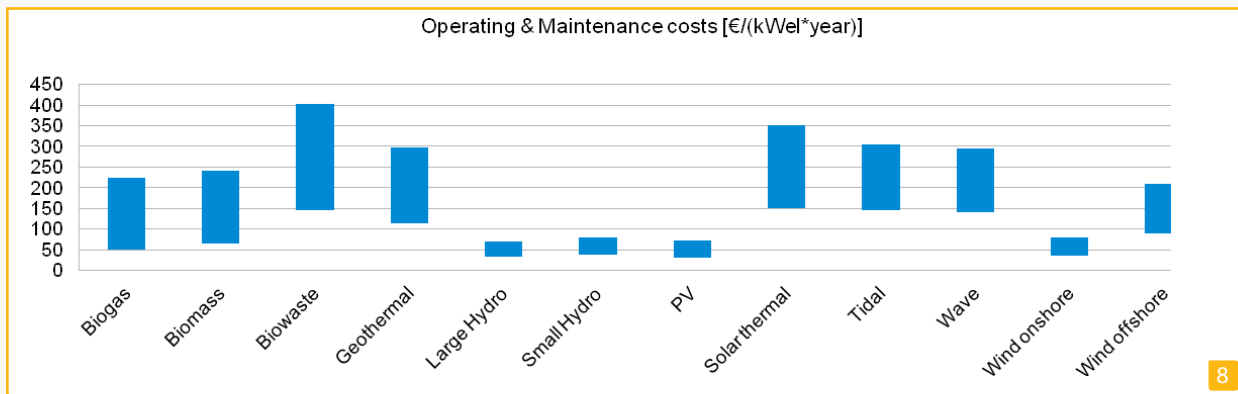
Expenses	Rough estimate	Example (small wind project)
■ Equipment + construction expertise	70-80%	PV modules + material for installation of the PV modules
■ Connection to the grid	5-10%	Depends on the distance of the RES site to the grid
■ construction expertise	10-20%	Professional installation of the PV modules



In addition to the investment costs mentioned above, financial costs also have to be taken into account (guarantees for the pv installation for instance).

For all RES types, the investment costs and operating and maintenance costs can vary, and the lifetime of different types of installation has to be taken into account as well. The following graphs illustrate the range of investment costs per RES type and operating and maintenance costs per RES type (in €/kW), for more information refer to the table on costs of electricity production from RES in the Annexes:





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Examples of investment schemes for a REScoop project

- Torrs Hydro New Mills limited investment scheme – UK

Type of installation	
Type of RES	Small hydro power plant (63kW)
Production	240 000 kWh/year
Investment scheme	
In shares	126 000 £ (around 147 000€)
In shares	70 000 £ (around 81 000€)
In loans	25 000 £ (around 29 000€)

- Combrailles Durables investment scheme – France

Type of installation	
Type of RES	Photovoltaic (96kW)
Production	59 000 kWh/year
Investment scheme	
In shares	10 000 €
In shares	48 000 €
In loans	100 000 €

Financing instruments for RES and REScoops

Public Support Schemes

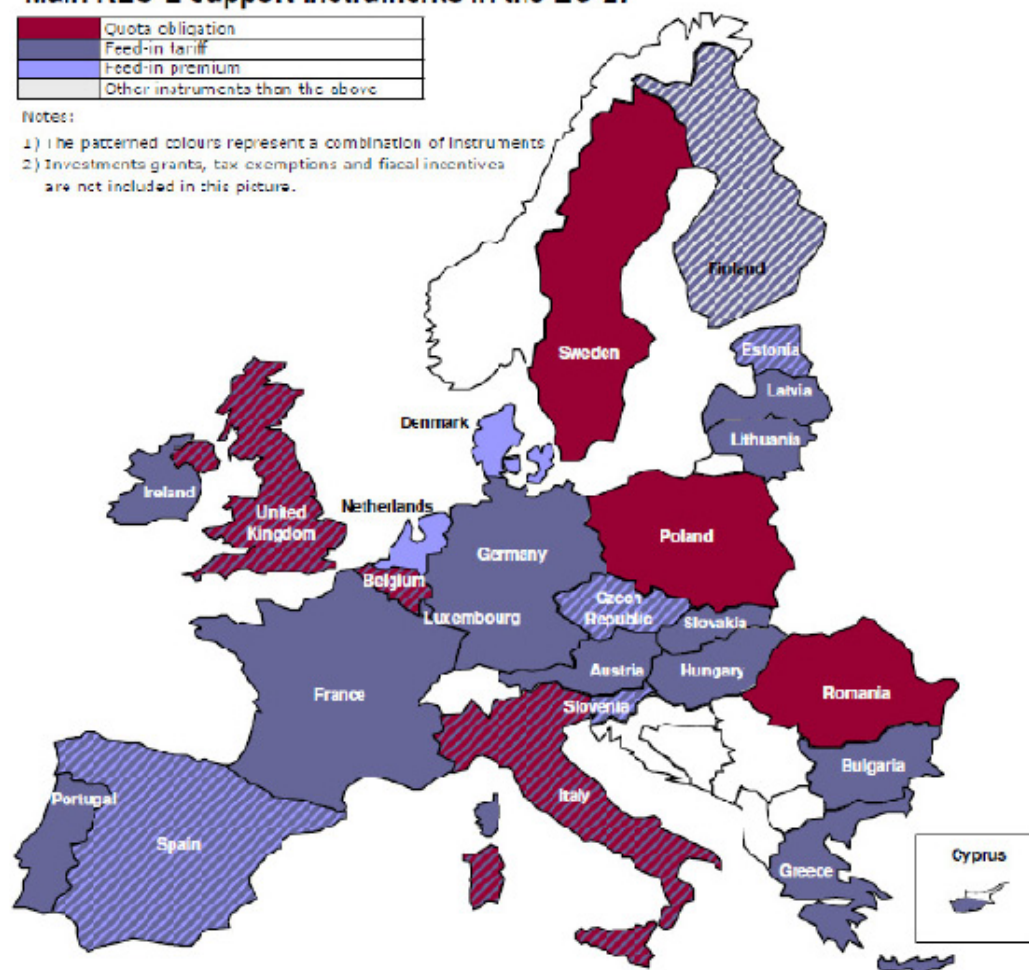
Different public support instruments exist in Europe. The main support schemes that are in place in the countries of the study are feed-in tariffs, quota obligations, feed-in premiums, investment grants, soft loans and tax incentives. Below is an overview of the different public support schemes that exist in the EU countries. State Aid rules constrain how many of these can be applied.

Main RES-E support instruments in the EU-27

	Quota obligation
	Feed-in tariff
	Feed-in premium
	Other instruments than the above

Notes:

- 1) The patterned colours represent a combination of Instruments
- 2) Investments grants, tax exemptions and fiscal incentives are not included in this picture.



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Source: ECOFYS, FRAUNHOFER ISI, TU VIENNA EEG, ERNST & YOUNG, 2011, p27: "Main RES-E support instruments in the EU-27"

Instrument	Definition
Feed-in Tariffs	A feed-in tariff is a fixed and guaranteed price paid to the eligible producers of electricity from RES, for the power they feed into the grid. Feed-in tariff systems have been historically and currently still are the main instruments of support in the EU.
Feed-in premium systems	A feed-in premium system corresponds to a guaranteed premium paid in addition to the income producers receive for the electricity from RES that is being sold on the electricity market.
Quota obligations	In countries with quota obligations, governments impose minimum shares of renewable electricity on suppliers (or consumers and producers) that increase over time. If obligations are not met, financial penalties are to be paid. Penalties are recycled back to suppliers in proportion to how much renewable electricity they have supplied. Obligations are combined with renewable obligation certificates (ROCs) that can be traded. Quota obligations create a market for the renewable property of electricity. The government creates a demand through imposing an obligation on consumers or suppliers to source a certain percentage of their electricity from RES.. Hence, ROCs provide support in addition to the electricity price and used as proof of compliance. A ROC represents the value of renewable electricity and facilitates trade in the green property of electricity.

Tenders	Tenders are used for large scale projects and most commonly for offshore wind.
Fiscal incentives	Including soft (or low-interest) loans that are loans with a rate below the market rate of interest Soft-loans may also provide other concessions to borrowers, including longer repayment periods or interest rates.
Tax exemptions	Tax incentives and exemptions are often complementary to other types of renewable energy incentives programs. They are powerful and highly flexible policy tools that can be targeted to encourage specific renewable energy technologies and to impact selected renewable energy market participants, especially when used in combination with other policy instruments. A wide range of tax incentives are present in the EU.

Source: ECOFYS, FRAUNHOFER ISI, TU VIENNA EEG, ERNST & YOUNG, 2011, p27: "Main RES-E support instruments in the EU-27"

General Financing structure

As explained above in the previous part, financial incentives exist on RES projects in every European country, to which RES-coops projects can access. These financial incentives can support REScoops but anyway REScoops must find their own "business models" to make a general financing process possible.

At the end of the 2000's the deSOLaSOL Intelligent Energy – Europe Altener project (N° EIE/05/078) made a clear analysis on such a process:

"(...) Financing this type of projects requires an in-depth assessment that demonstrates feasibility and capacity to manage risk. Such risks are, sometimes, new issues for the financing industry. Thus, it is important for project developers to understand all the elements that are part of an economic feasibility analysis of a renewable energy project. (...).

It is also essential to know the regulatory environment under which the project will be developed and how it affects the financing process.

Assuming that the feasibility study and preliminary analyses have identified a viable opportunity, the developer should be prepared to start investing in the project itself. The next steps entail: initiating the interconnection process with the local utility; developing the plant layout and design; beginning the permitting application process updating financial projections; initiating power purchase negotiations and contacting funding sources to obtain financing.

In some cases, strategic partners will also be equity investors, which may expedite project implementation. The entire process – from conducting the resource assessment to the start-up of operations – may take two years or longer, depending on the scale and complexity of the project." (DESOLASOL, TRIODOS BANK, 2006)

As the process could be very long the general financing structure must include a strong commitment in equity (20 to 30 % -and often more- of the total financial needs). The additional 70 to 80 % of financing could be found by bank loans from mainstream banks (even if they are often very prudent with such projects they are not used to) or from local cooperative banks, or from environmental/ethical banks.

The banking process is often complex, as was underlined by deSOLaSOL project:

“Finally, it is worth remembering the information typically required when applying for a loan for a PV[RES] project:

- *A resource assessment*
- *A project feasibility study (technical and economic evaluation) by a credible consultant*
- *Proven expertise in managing the type of project to be financed or an agreement with a qualified third party project manager*
- *Zoning and site permitting approval, including environmental impact studies*
- *Equipment performance data*
- *Equipment warranties and an operations and maintenance agreement*
- *A completed interconnection study*
- *A long-term power purchase agreement with a creditworthy utility that will purchase the electricity at specified prices³*
- *A business, financial and risk management plan for the project including complete pro-forma financial statements*
- *Commitments for all required equity”*

(DESOLASOL, TRIODOS BANK, 2006)

Citizen equity

The last point identified in the previous paragraph (“Commitments for all required equity”) is particularly important in RES-coops projects as the 20 to 30 % of needed equity comes directly from citizen investment.

A range of funding options is available for RES projects in most countries of the EU. The particularity of REScoop projects is based on the citizen investment option that is used to finance the project and give the possibility to local citizens to own part of the project. The Equity investment is therefore a key step in a REScoop financing both because it is part of the characteristic of a REScoop to have citizen funding sources but also because financial operators do not fund 100% of a REScoop project through loans. Having a percentage of citizen investment is essential in the financing plan of a REScoop project. It also fosters community engagement, with citizens becoming active members of the cooperative.

Several possibilities exist in Europe to include the financial participation of citizens in REScoop projects through:

- the buying of shares for equity (through a share offer);
- the direct investment as a private loan into the project;
- a financial guarantee so that the REScoop project can have access to a bank loan (not all banks accept this, mostly supported by cooperative banks);
- a membership fee (annual fees paid by the members of a cooperative);
- In the UK, Energy Prospects also exist; it is a cooperative that delivers projects with planning permission to local cooperatives.

To know if a development of REScoops will be possible in the future it is therefore necessary to study the main lines of general saving, of equity market and of ethical/citizen finance in Europe.

• [European general saving market](#)

Due to the crisis European households have experienced the rise in their debt levels (75% in 2000 to nearly 100% today) without this caused considerable variation in their savings rate which remained stable. Even in countries where debt has increased dramatically, the savings rate remains high (as in Spain).

Thus, savings capacity of households remains important in Europe despite the economic crisis. However, the progression of the crisis could have negative effects on the ability to save and therefore remains an important point of vigilance.

³ Sometimes banks will insist on an agreement to cover the life of the loan.

2011	Euro zone (17 countries)	European Union (27 countries)
Population (in millions)	332	503
GDP (in million)	9 400 000	1 3200 000
GDP / capita (in thousands of euros)	27,2	25,2
Saving rate of households	13,22%	11,46%
Gross saving (in millions)	1 859 200	2 414 400
Gross saving / capita (in euro)	5 600	4 800
Gross rate of household debt - debt / disposable income	98,89%	

Source : eurostat

▪ European equity market

European Equity market is supposed to be less dynamic than in other countries like the United States of America or “emerging countries”.

Nevertheless it is an important market as shown by the key figures for 2011 (Source: EVCA, 2011):

- Total outstanding of European investments in equity : EUR 40 billion
- Part of the European GDP: 0,326%
- Raising: EUR 46 billion
- Number of enterprises financed : 4 800 (85% of Small and Medium Enterprises)

This market is very concentrated in a few countries: 43% for Great Britain, 27 % for France and Benelux, 11% for Germany, Austria and Switzerland.

A lot of sectors are financed through equity, the main of which are Bio-technologies (31%), IT (17%), Communication (17%), Environment and Energy.

Funds are coming from different origins: Pension funds (22%), Hedge funds (20%), Banks (18%), National Funds (13%), Individuals (10%), Insurance Companies (7%) and Public agencies (5%). It is to notice that individuals represent very few of the funding, which may be explained by “cultural” factors: European citizens are used to put their liquidities in savings much more than in equity, as they prefer less profitability but more security. This cultural factor is to take into account by RES-coops. Faced to such a willing to security, they must insist in their security advantages (public support, guaranteed contracts, etc.) even if technically they propose a considered risky investment to individuals.

The main trend of European equity market is a huge fall of equity investments following credit crisis and recession in 2007/2008 (-18% in 2008). The European equity market is subject to significant fluctuations due to the risks involved and its vulnerability with regard to the economic situation.

The very strong risk of investment in equity must be an important point of vigilance for REScoops. However because of investing in local and long term projects, often supported by public authorities and with guaranteed contracts, REScoops have persuasive arguments to convince citizens to invest in and to ensure their investments. They could also benefit from European ethical/citizen finance saving market dynamic. It should also be noted that REScoops are long term investments and some individuals will not appreciate not being able to trade or withdraw their capital on a short term basis.

▪ European ethical/citizen finance saving market

This market is recent (boom since the early 2000's), mixed, undergoing strong growth (two digits) and structured in three branches:

- Philanthropic and charity funding: EUR 10 billion of outstanding loans in 2011, 150 different accounts, 100 charity funds. A lot of European mainstream finance actors involved.
- Socially responsible funding (SRI): EUR 84 billion of outstanding loans in 2011 in 850 "institutional" funds, strong growth (+12 % in 2011), very concentrated market (France, Great Britain, Switzerland)
- Ethical and solidarity-based funding: EUR 21 billion of outstanding loans in 2009 with 525 000 savers, 85 funds (8% of SRI funds), small size actors

As a recent market it has a very interesting potential with a strong growth (two digits whereas banks are weakened by the crisis) which seems to be sustainable (for instance 2/3 of the French people know ethical saving and say they are ready to take action). To reach such a potential the market must be structured, in particular working on criteria/indicators for ethical saving (the idea of a European label is in discussion). Another strength lies in the interest from public authorities (from local to international levels). Recently the best example comes from the European level with the vote at the beginning of 2013 by the European Parliament of the "EuSEF" label (European Social Entrepreneurship Fund), and a few months later with the creation of the "Social Impact Accelerator" fund of funds by the European Investment Fund.

Given the wide disparity in ethical finance in Europe, the challenge for REScoops is how to differentiate them in the eyes of citizen investors and project developers:

Compared to the SRI funds, they must focus on no simple criteria of extra-financial ratings but on a global approach to promote citizens' projects of renewable energy.

Compared to the philanthropic funding, REScoops must promote a different logic from just savings and gifts.

Compared to Ethical and solidarity-based funding, REScoops must explain that they require investments in equity - whose citizens projects need to develop- which is different from bank savings. They must promote direct citizen engagement in projects and solicitation of public authorities, insisting in the powerful concept of economic democracy. Finally they have to show their difference thanks to the direct-visibility of projects funded - "short-circuit" between investors and the project. A lot of citizens, disappointed by the lack of transparency of the mainstream financial circuits are very interested in being part of such "short-circuits", even if the risk is a little bit higher.

Opportunities for REScoops financing exist

The previous part of this report showed that the general context in Europe is quite in favor of citizen investments in REScoops. However the main barriers are perhaps not coming from the financial point of view, but from other barriers that will be deeply presented in the following part (II).

II. Analysis of financial barriers and existing solutions for REScoops

It is important to underline the fact that the main issues hindering the financing of REScoop projects are not primarily linked to financial factors. Several studies⁴ on the development of renewable energy sources in the European Union suggest in fact that various barriers slow down the renewable energy growth and that investing more public funds or setting up new financial tools will not immediately accelerate the creation of RES projects. As indicated in a study on the progress of energy efficiency policies in Europe : “[thinking that if an energy efficiency investment is economic and access to capital is available, the investment will be made is a simplistic approach]” (Energy Efficiency Watch, 2012). Moreover, financial operators interviewed for this report stressed that the lack of adequate financial tools is not, in their opinion, the main obstacle to finance REScoop projects but that political, administrative, legal and economical factors are the primary bottlenecks affecting the validation of a REScoop project’s financing plan.

This analysis then focuses on highlighting the main barriers (identified during interviews and in the country reports) that have an impact on the financing of REScoop projects. Although these barriers are not exclusively financial in nature, they do have a direct or indirect consequence for the financing of these projects. Indeed, the difficulties met by project coordinators are often linked with the context in which the initiatives are taking place.

In other words, in most cases the main barriers for financing projects arise well before the implementation of a financing scheme. We therefore found it is essential in this analysis to include a reference to non-financial barriers that have an impact on financing REScoop projects. In our attempt to lay out solutions, however, this report does focus mainly on financing-type solutions for REScoops. In line with the coherent approach of the REScoop 20-20-20 project, the solutions mentioned are examples based on the project’s Report on Best Practices and on our country reports (see the Toolbox of the REScoop 20-20-20 project), while the handbook on investment schemes of the REScoop 20-20-20 project will constitute a practical extension of this research, describing the most effective specific solutions for financing REScoops in more operational detail.

1 Cultural and political factors that have consequences on financing REScoops

The first category of obstacles is linked to the cultural and political contexts in which the project is created. REScoops by definition represent two lines of action: the cooperative model and the development of renewable energy. Having these two distinct (but not diverging) objectives can represent both an advantage and a challenge when it comes to launching a project and fostering participation and support.

The challenge faced by REScoops is then to foster acceptance not only for the renewable energy installations but also to convince people of the relevance of the cooperative model. Therefore the context into which the cooperative project is launched plays an important role in the success of the initiative, depending on the level of knowledge on the cooperative model and on renewable energy sources spread among the different actors and the level of political support towards REScoops. Moreover the cultural factor has often been put forward by interviewees as an essential element in the understanding of barriers and solutions faced by REScoops for their financing.

Lack of knowledge concerning the cooperative model

- [Historical context of the development of cooperative model in Europe](#)

Concerning the development of the cooperative model, the ten countries included in this study have very different historical and cultural backgrounds. In some countries, cooperation is embedded in the cultural framework whereas in other countries citizens are not used to engage in citizen-led projects.

⁴See in bibliography: Energy Efficiency Watch Survey 2012, OPTRES 2007, DGE EU Financing RE market in EU, 2011

The United Kingdom is for instance the birth country of the modern cooperative movement through the Rochdale Pioneers⁵.

In a global research study on perceptions towards cooperatives carried out in several cities including Paris and Manchester⁶, members of cooperatives were classified in different categories according to the reason why they became members of a cooperative. One category was identified as the “Lifers” as being “*individuals who had learned about cooperatives as school children, who had grown up going to cooperatives with their parents, and who perceived them to be part of Manchester’s history. For the most part, they never questioned joining a cooperative*”. This category was only found in Manchester and not in Paris, given that the cooperative movement in Paris is not tightly linked to widespread cultural or historical background compared to Manchester (IPSOS, UQAM, 2012).

Some countries are also accustomed to the local initiatives and decentralization models, especially concerning energy issues while others are still based on very centralized models. For instance France had a very centralized energy model based on regulated energy prices and the public operator EDF before the liberalizing its energy market in the early 2000’s through the application of the European legislation. This only recent liberalization has had a strong impact on the difficulties for creating not only REScoops but any other economically viable competitor to EDF on the French energy market given that the consumers are not only vaguely aware of the possibility to switch their energy operator (in 2012 still less than half of the population was informed of the possibility to switch energy suppliers – Energie-Info, 2012); but can also be hesitant towards a decentralized model. Whereas in Germany, the electricity market was opened to competition as early as 1998 and this change was easily accepted by the German consumers mostly because before 1998 the market was already very fragmented between several thousands of locally based energy operators (DESESSARD, J, 2012).

- **In other countries the lack of knowledge of the model is a barrier as such**

In other countries the cooperative model is a barrier as such because the model is not known and people don’t want to invest in a project they don’t understand. Thus people might be aware of the possibility to have a local supplier or producer of energy, but they might not feel comfortable with relying on a citizen’s initiative because they are not familiar with the model.

In Scotland for instance, the community ownership model that is most prevalent is a non-profit distributing Company limited by guarantee. This is because community facilities like village halls are mostly set up to receive grants rather than collectively raise capital themselves.

REScoops from countries in which the cooperative model is not well known either by the general public or by the financial operators meet a strong obstacle due to the lack of recognition and trust in the cooperative model. The lack of knowledge related to the cooperative model or the citizen-led projects can be a crucial obstacle for financing because directly linked to a lack of legitimacy of the cooperative as real market player and viable economic alternative.

Lack of legitimacy as a real market player and low trust in the cooperative model as an effective economic alternative

- **Different types of legitimacy**

As underlined by B. Huybrecht and S. Mertens, among the different types of legitimacy identified, cooperatives are faced with a lack of cognitive legitimacy. Cognitive legitimacy *refers to “the extent to which the initiative falls into the stakeholders’ pre-established categories and is “taken for granted”*” (Huybrechts & Mertens, forthcoming). The obstacle for REScoops is plainly linked to the fact that people do not know what REScoops are and more particularly they do not know the cooperative model as an effective economic model.

⁵ica.coop/fr/node/4892

⁶This study was undertaken by Ipsos and the University of Québec for the 2012 edition of the international summit of cooperatives - www.2012intlsummit.coop/site/studies

REScoop project initiators often highlight the notion that the specific nature of a cooperative as both a democratic and socially oriented model and an effective market player can be destabilizing for citizens who are not familiar with social enterprises. B. Huybrechts and S. Mertens explain that *"[when people think business and economic activity, they spontaneously see the traditional for-profit business model. When they think of private answers to social or environmental needs, it is the nonprofit or NGO model that springs to mind. When democracy is at stake, the State appears as the natural guardian. Few people would consider the very notion of hybridity between business and social or environmental needs, or between business and democracy; and if they do, even fewer will link such hybridity with the cooperative model. Definitely, coops enjoy little legitimacy simply because people (...) do not know them.]"* (Huybrechts & Mertens, forthcoming).

- Perception of citizen-led projects versus public authorities role in the energy sector

The case of citizen initiatives undertaken in the energy sector is especially confronted with the expectations consumers have towards their government. Especially given that most of the renewable energy sources being identified as common goods and therefore accessible to all⁷ it is often expected in certain countries that the government should be in charge of the organization of the exploitation of such resources. Nevertheless, this expectation towards public administration varies widely from country to country: it depends on the level of trust in the government's actions (speed, etc.), the cultural background of citizen initiatives or other factors.

In Denmark for instance, the cooperative movement began in the late 19th century through rural initiatives of dairy farmers who voluntarily joined to sell collectively their milk production. This cooperation between farmers allowed them to lower their transaction costs and to enhance the quality of their production. Svendsen and Svendsen identify 3 core values on which the Danish cooperative movement was based: "profit, democracy and trust" (Svendsen & Svendsen, 2000). However if the dairy cooperative model quickly expanded in the country, it did so without the support of the Danish government at first: *"Until the end of the decade, the Danish government - being conservative and anti-socialist - did nothing to encourage the foundation of cooperative dairies. (...) However, the movement was out of their control. The rural population joined voluntarily and the number of cooperative dairies increased rapidly. People voluntarily used their own money to start capital, raised loans in their own local financial institutes, and asked - and paid - for technical advice themselves, and so on"* (Svendsen & Svendsen, 2000).

The Danish cooperative movement then extended to other economical sector and the Danish government recognized the added-value in rural areas of the cooperative model. From the dairy farmers cooperatives first created in 1882, the cooperative movement grew strong in the country and became a widespread organizational model based on local initiatives : *"cooperatives became the way of organizing all common practical matters among the Danish rural population"* (Chloupkova, Svendsen & Svendsen, 2003). Thus the cooperative model is part of the pre-established categories that Danish citizens have integrated in their cultural background and accept as a well known type of economically functional type of organization.

On the other hand, in Belgium for instance, in some cases the cooperative model is not known enough by the general public or potential financial partners to be "taken for granted" as a serious organizational model. Local public authorities are not familiar with the advantages of involving the local community in the governance and the financing of a renewable energy project and therefore tend to hesitate before supporting or investing in a REScoop: *"[taking the perspective of local governments, the potential advantage of coops seemed off-set by the lack of awareness of such potential. The study confirmed a total ignorance of municipalities and local governments regarding the potential benefit they would enjoy getting involved in a coop]"* (Huybrechts & Mertens, forthcoming). A particularly symbolic example of the reluctance of public authorities to support a citizen-owned renewable energy project is the case of EWS in Germany, where the citizens took over the local grid without the support of the local public authorities at first (see EWS story box).

⁷ See REScoop 20-20-20 Charter - glossary + sources

EWS story in Germany

“The project started after the nuclear catastrophe of Chernobyl in 1986. In Schönau, like in many other communities in Germany at this time, inhabitants came together to form a citizen’s initiative against nuclear power, the “Parents for a nuclear-free future” (EfaZ). In 1987 we started to organize energy saving competitions. The idea was to show that we can do without nuclear power by saving it “away”. Then we asked our grid operator KWR, which had the permission to run the grid since 1974 and up to 1994, for support, for example by sponsoring a prize for the competition. But KWR told us, that it was their policy to sell electricity and not to save it. So we recognized, that running the grid of Schönau in an ecological way would be impossible with this grid operator.

In 1990, four years before the permission contract ended, KWR contacted the town council of Schönau to offer a new permission contract up to 2014. For each year this contract was signed earlier – the old contract ran till 1994, so a new one wasn’t really necessary at this moment – KWR offered 25.000 DM to Schönau, 100.000 DM on the whole.

The citizen’s initiative had to prevent the conclusion of the contract at any costs, so we founded the Netzkauf Schönau GbR: 282 citizens of Schönau offered 100.000 DM for not signing the contract. But the town council was willing to go on with KWR and decided to sign the contract in July 1991. The answer of the citizen’s initiative was the initialization of a referendum to cancel this decision. The referendum took place 27. October 1991 and we won it with 55%.

The citizen’s initiative had bought the time of four years for 100.000 DM. These four years we needed, to built up an own company, which would be able to run the grid. We were a citizen’s initiative with just one electrician, all the other people had nothing to do with electricity, so we urgently needed the knowledge of some experts. Fortunately, the media became attracted by the activities of a citizen’s initiative in rural Black Forest, so after winning the first referendum many energy experts from all over Germany contacted us to offer their help.” (Sebastian Sladek, EWS - Best Practices interviews)

Moreover, this lack of trust in citizen-driven initiatives has a direct consequence on the financing of REScoops because newly created REScoops find it hard to communicate on their project in a context where the knowledge on the cooperative model is a barrier as such. Financial operators interviewed have underlined the fact that the democratic governance of cooperatives and citizen projects is often considered as a risk by the mainstream financial actors who are not accustomed to working with the cooperative model. Indeed, the governance principle of “1 member = 1 vote” which is widely spread in citizen-owned projects can appear difficult to analyze for financial operators because too many stakeholders are involved in the decision-making process of this type of projects. Also, the cooperative statutes are not always credible for financial operators because the rate of return on investment is often limited (either by national law or by choice through the statutes of the organization) like the cases of Belgium, France or Italy for instance. This limitation could be a positive criterion for financial operators because it would enable a higher profit for a bank, yet on the contrary in some cases they actually consider risky a project with a limitation of return on investment which does not share their high expectation for profit.

- REScoop as real market players

In countries where the cooperative model is widely spread and recognized as an efficient economic model, REScoops don’t have to deal with a legitimacy issue in front of the financial operators, the government or the citizens. It is the case for instance in Germany, where the number of newly created REScoops is booming with more than 300 successful projects launched in the last 5 years according to the results of a survey carried out in 2012 (DGRV, 2012). Indeed, the cooperative model is recognized as an efficient economic model embedded in a professional network of actors bringing expert audit and consulting support through the cooperative movement.

Furthermore, cooperatives have an exceptionally low bankruptcy rate in the country and are considered “the most secure legal form in Germany” (DGRV, 2012). In the United-Kingdom, although the cooperative model is widely spread, a specific barrier faced by REScoop projects is the access to land. Most landowners would rather work with well resourced commercial developers who pay them to sign exclusivity agreements so that they work with them and nobody else.

On the other hand, in countries where the cooperative model is not recognized as a real market player and as legitimate as other more traditional forms of enterprise; the democratic governance can come as a sort of bonus in addition to the fact that the REScoop is a competitive market player. But since REScoops do not concentrate on making profit as a primary objective, the profitability of renewable energy cooperatives is not often put forward as a commercial argument to compete with other traditional energy market players. This is the case for Ecopower in Belgium for instance who highlights the renewable energy objectives and underlines the cooperative nature of the organization before putting forward their competitive prices and return on investment rates for members.

To overcome barriers such as the lack of legitimacy of the cooperative model, some REScoops try not to focus on the organizational particularities of their project, but engage with citizens through other arguments such as the ownership of the project. In France, the photovoltaic project Combrailles Durables managed to trigger the involvement of local stakeholders who did not know or believed in the cooperative benefits of this type of initiative by simply communicating on the fact that citizens could own part of a PV roof plant by investing 50€ in the project. The notion of community-owned renewable energy is then very basically achieved that way, creating at first a group of “spectator stakeholders” who only become actively involved as members of the cooperative once they became owners of part of the PV plant (REScoop 20-20-20, 2013).

This approach allows project initiators to avoid cultural obstacles that tend to crystallize the image of a cooperative as either an old-fashioned model or a non-professional and therefore not serious initiative (IPSOS, UQAM, 2012).

Nevertheless, one of the key issues for REScoops is frequently linked to the necessity to promote the project not only as a valid and economically viable project but also as a more fundamental objective: develop democratic renewable energy production and promote a more rational energy use. Indeed, the REScoop model is not envisaged solely as an economic project; it is based on the promotion of a specific vision of consumption and production of energy⁸; a vision which is not always shared by the citizens and potential partners.

Level of political support to RES plays an important part in the development of REScoops + political support to cooperative model

- Lack of knowledge concerning RES on local and national level generally leads to lack of political support

Thus, REScoops not only face obstacles for their financing through the lack of knowledge and the lack of legitimacy linked to the cooperative model; but they also face barriers linked to the lack of knowledge concerning renewable energy issues on both local and national levels. This lack of knowledge concerning renewable energy has a direct impact on the support to REScoop development and is generally deeply tied to a lack of political support.

Whereas the involvement of local stakeholders is the key input of citizen initiatives to foster acceptance of renewable energy installations, the misconceptions to which the project initiators can be confronted both on a local or national scale remain strong.

Many people interviewed in countries where REScoops are facing a very slow growth underline this particular fact as being the result of a lack of information on a national level that is often spread through the media and the political sphere. The lack of courses available in universities on renewable energy, energy saving or rational energy use is also mentioned in the interviews as a barrier of information in several countries, although progress has also been acknowledged in certain countries.

⁸ See REScoop 20-20-20 European Charter – Common Vision of the partners

The quality and availability of information on renewable energy provided by the governments for the general public varies widely from one country to another as well. The availability of information on renewable energy sources in general and on support measures to renewable energy in particular is identified as one of the main non-cost barrier to renewable energy growth in European countries in several reports (ECOFYS, 2011; OPTRES, 2007; ECORYS, 2010). Given that the efficiency of public support schemes towards renewable energy development stems from the quality of dissemination campaigns and the quality of the communication on those schemes, the level of information available on those schemes is crucial to the financing of projects. The ECORYS report mentions that “[...] in some cases investments would be done even without subsidies. However they can be postponed if the potential investor is aware that it is possible or might soon be possible, to receive a subsidy, but is not able to obtain clear information on the subsidy]” (ECORYS, 2010). While Denmark, Germany and the Netherlands seem to have a good availability of information on support mechanisms to renewable energy, Greece and the UK appear to have a lower quality of available information for instance according to the reports previously mentioned.

Awareness raising campaigns on energy transition and the benefits of renewable energy development and energy saving have also been considered ineffective in countries such as Italy, Greece or Belgium. The interviewees criticized the fact that public policies do not aim at reflecting the advantages of developing renewable energy projects for local communities and are often not targeting the most adequate audience. Thus the misconceptions on several key issues related to renewable energy endure among the general public. The lack of independent information and the influence of the big energy companies on the campaigns is highlighted both in studies conducted on the European level and by our interviewees. In the OPTRES report the “invisibility of the full costs of electricity from non-RES” is identified as one of the main social barriers to the development of renewable energy in Europe: “Usually all the costs related to the construction and the grid connection of a renewable energy plant are attributed to the kWh cost price of this renewable electricity. In contrast to this, in the case of nuclear energy, it is common practice for the kWh cost price of nuclear energy to exclude the costs of the treatment and storage of nuclear waste and the costs of decommissioning nuclear power plants. Nor are coal subsidies attributed to the kWh cost price of electricity generated by coal-fired power plants” (OPTRES, 2007). Therefore, as underlined in a report published by the UNEP, the price of energy is an important factor of misunderstanding which favors fossil energy sources instead of renewable energy sources because the price of energy does not take into account negative externalities for fossil fuels or positive externalities for RES (UNEP, 2004). The misunderstanding linked to the level of public support towards renewable energy production that has repercussions on the consumer’s energy bill is also highlighted as a negative perception of renewable energy development in several countries like Greece or France.

The barrier of awareness of renewable energy’s benefits for communities is identified as the third highest perceived barrier affecting all types of renewable energy technologies in a report conducted by Ecofys for the European Commission. This lack of knowledge is evaluated as a more important barrier than that of “lack of funding or financing” and “lack of experience /trust among banks or investors” (ECOFYS, 2011). This barrier particularly affects the REScoop projects because local and regional authorities are often key stakeholders for the development of these initiatives and in the same logic, the local authorities can be a major obstacle to RES projects when they are opposed to their creation. The OPTRES report points out the fact that the local authorities tend to be opposed to projects not because they are against renewable energy development but because they do not want the installations to be near their communities. Thus, “NIMBYsm” (Not In My Back Yard) has been identified as an obstacle for renewable energy installations especially concerning local public representatives (OPTRES, 2007), when local authorities’ support has also been identified as a crucial asset for REScoops in the Best Practice Report of the REScoop 20-20-20 project⁹. Therefore, in countries like Greece, an interviewee explains that: “[the lack of consultation with the local communities where RES projects are to be installed combined with the lack of fundamental knowledge regarding RES has led to widespread misconceptions and skepticism regarding their environmental impact]”.

This leads to the question of whether the public policies of the Member States are favorable to RES development and enhance the knowledge of renewable energy’s benefits for local communities. A strong and clear political support to RES development is closely tied to the acceptance level of RES by local public authorities who then are better informed of the opportunities of RES for their territories. And have local targets for RES development.

⁹ Best Practice Report (WP2): “Relation with stakeholders - Get support of your local authorities”

- **Political support towards developing RES and long term objectives and planning of RES development**

Hence the cultural framework is often illustrated through the political context of renewable energy. That way, even if each European Member State has official targets to reach for 2020 according to the European Directive 2009/28/EC, the national governments have set up very different ways to encourage RES growth. These political orientations or public policies can have a tremendous impact on REScoops development.

Different types of approaches exist to help encourage the participation of local citizens in renewable energy projects. It is the case in Denmark, where the Promotion of Renewable Energy Act provides since 2009 an obligation for developers of wind projects to offer a stake of at least 20% of a wind farm to people living within a radius of 4.5 km from the turbines. On the 6000 Danish wind turbines, 70 to 80% are shared ownership of local groups and citizens. This promotion of the participation of local citizens in the projects of power generation has been possible thanks to the support of the vast majority of the Danish Parliament.

In Belgium, the Walloon region is setting up a similar obligation that will require developers of wind projects to have around 25% of citizens owning the wind parks. A bill is being drafted and should be applied as early as next year. The Flanders region joined this principle through regional development schemes of renewable energy establishing a minimum participation of 20% of citizens. However in Flanders this obligation is not legally binding, it only applied through negotiations during the validation of the wind park construction permit by the local authorities.

The Scottish Government, to support its target of reaching 100% of production from renewable sources by 2020, established a target of 500 MW produced from citizen-owned projects¹⁰. In April 2012, the construction of a 370 MW wind farm has been approved by the government in Shetland, 50% of the property belongs to the community.

Option to purchase wind park shares for local citizens in Denmark

The case of Denmark is particularly interesting for REScoop development in terms of legal framework for the participation of the local citizens in renewable energy projects. The Promotion of Renewable Energy Act, adopted by the majority of the Danish Parliament in 2008, sets several planning schemes for the promotion and development of onshore wind projects including which is the option to purchase wind turbine shares for local citizens (IEA, 2011). This legal framework is applied on a national level according to Article 13.-(1) of the Act:

“Any person who erects one or more wind turbines of at least 25m in height onshore, or offshore wind turbines established without a tendering procedure, (...) shall, prior to the commencement of erection, offer for sale at least 20 per cent of ownership shares to the persons entitled to make an offer pursuant to section 15”.

(Article 13.-(1), Local citizen's option to purchase wind turbines shares, English translation of the Renewable Energy Act of December 2008).

- **Political/civil society support towards cooperative model in RES**

The support of civil society is also an important factor to take into account, especially for REScoops. In several countries included in the study, REScoops are often supported by the local or national environmental NGOs. The relationship with NGOs can go from classic partnership to founding member of a REScoop and therefore the ties between the civil society and the members of a REScoop are very close.

¹⁰ www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/Communities

The support of a network of NGOs can also be very important because it gives a certain value added to the REScoop to be officially supported by an association. In Belgium and France for instance, Greenpeace has backed the creation and development of REScoops like Ecopower and Enercoop. In Belgium Greenpeace promoted the environmental record of Ecopower as “best-in-class” among the Belgian electricity providers, thereby increasing consumers’ interest”(Huybrechts & Mertens, forthcoming) and in France Greenpeace is one of the founding members of Enercoop.

Enercoop and its founding members in France

Enercoop is a 100% green energy supplier in France. It was launched in 2005 by several French ecological and ethical business organizations. The founding members include for instance Greenpeace France, La Nef an ethical finance cooperative and Biocoop a cooperative of organic food stores. These organizations have been supporting the development of Enercoop on a national scale through their networks.

2 Economical and management factors that have consequences on financing REScoops

If cultural and political factors play an important part in the development of REScoop projects in Europe, they do not represent all the reasons hindering the creation and financing of these initiatives. Moreover, cultural and political factors are complex to assess and generally demand in-depth solutions that have to be put in place in the long run. Nonetheless more ‘technical’ factors exist that can be considered as sources of slowdown for REScoop projects such as economical and management factors that have consequences on the financing of local RES projects.

A particular difficulty to renewable energy generation projects is the amount of capital that needs to be raised to cover the initial costs. Indeed, renewable energy production projects are very capitalistic in nature; with low operating costs but high initial investment amounts that must be raised in order to set up the installation before producing energy. (Grandjean, 2012).

Nevertheless, as B. Huybrechts and S. Mertens point out in their paper on REScoops: “*One of the most challenging barriers to entry faced by cooperatives is probably the difficulty to gather sufficient capital, particularly in capital-incentive industries. By definition, non-investors-owned firms are less attractive to investors seeking to maximize their return on investments. Capital is limited to the amount raised from the members*” (Huybrechts & Mertens, forthcoming). Thus, while the level of initial capital that needs to be raised for the installation of a REScoop project is usually very high, the specificities of a citizen-based project are not always attractive for investors. Moreover, citizen investment can be rather limited in several European countries either by law or because of cultural factors and therefore the financing of REScoops can be especially complicated in certain cases.

Pre-planning stage barriers

The pre-planning stage of a project has been identified by the REScoop initiators as a very capital intensive phase and often particularly lengthy depending on the country regulation. Moreover, during the pre-planning stage projects can hardly ask for loans from financial institutions yet because the main steps of the projects have to be laid out first through business plan modeling, technical assessment of the technology that will be used, public consultations for the validation of the project by the local communities, etc. At this stage of the financing of the project, equity finance levers have to be used through venture capital or grants because of its level of risk (ECOFYS, 2011).

In addition, the cooperative projects are in practice launched by citizens who are not professional entrepreneurs and often lack the skills needed in terms of financial and legal expertise or the technical input. The competencies required for setting up a viable project planning that will be validated by financial operators in order to start collecting capital are not easily acquired and can also be costly if it has to be undertaken through professional organizations. The low predictability of capital subsidies is also identified in the OPTRES report as a barrier to financing RES projects because *“it is hard to predict what kind and how much support the investor can expect at the start of the project planning period”* and this lack of visibility can lower even more the pre-planning stage financing options (OPTRES, 2007). Finally, the pre-planning stage can be a lengthy phase because REScoops generally need to go through authorization processes when creating an energy production project and financial operators usually don't allocate loans to projects that have not yet reached a certain stage of the authorization processes. In France for instance, there is no particular mechanisms which can finance venture capital and interviewees estimate that around 80% of the projects do not manage to go through the first three years of their project creation because of the difficulty to fund their pre-planning stage.

Several solutions to support REScoop projects in their pre-planning stage exist at least in some countries covered by the study. In Germany for instance, a very strong local network of actors is in place and it directly supports new cooperative projects. It is through the network that project initiators find specific support through professional skills to help creating a valid project planning but also to activate networks of financing actors or specific contacts that can be reached by the REScoop.

Co-operative Group support mechanisms towards REScoops - United-Kingdom

In the United-Kingdom the cooperative movement directly developed tools to support the creation of new cooperatives. For instance, the Co-operative Group founded the “Co-operative Group's Enterprise Hub” and the “Co-operative Energy Challenge” are two initiatives that assist project initiators in the creation of their cooperatives by bringing key competencies needed during the pre-planning stages:

- Co-operative Group's Enterprise Hub¹¹: “the Hub has been set up by the Co-operative's Group as a one-stop shop for free advice, training and access to finance for new and existing cooperatives”
- The Co-operative Energy challenge¹²: “this support is being delivered by the Center for Sustainable Energy on behalf of the Co-operative Group and aims to bring the selected community projects to a state of readiness for further support and investment from the Co-operative Enterprise Hub and the Co-operative Bank”.

Another example of good practice is the case of Ecopower in Belgium, where the feasibility study for the first project was undertaken by volunteers, avoiding extra costs of the pre-planning stage for the cooperative. And a study of the production of energy was made and simulations were done by the department of fluid mechanics of the University of Brussels.

In Italy an opportunity for financing REScoop at the early stage could be represented by Crowdfunding. So far, there are no platforms dedicated to renewable energy: nevertheless, the CONSOB (Italian regulatory agency for financial institutions) just delivered a specific regulation, the first in Europe, to allow the collecting of private savings. An interesting model is represented by “Abundance” the first community investment platform in UK.¹³

¹¹ www.co-operative.coop/enterprisehub/About-the-hub/

¹² www.co-operative.coop/join-the-revolution/our-plan/clean-energy-revolution/community-energy/Community-energy-challenge/4

¹³ www.abundancegeneration.com/

Moreover, some Ethical and cooperative banks developed two good practices:

1. The first is the case of BCC (cooperative credit bank) which have stipulated an agreement with Legambiente (Italian Environmental NGO) to give private citizens, businesses, local authorities the opportunity to receive financing up to 200.000€ - 100% of total amount – to realize investments in renewable energy production (solar roof, mini-hydro, etc..) and energy efficiency. The due diligence is partly done by the bank (economic assessment) and partly by the environmental association (technical issues).
2. The second is the case of Banca Popolare Etica, the only financial institution so far involved in a REScoop project. The bank offers loans up to 80% of the investment with variable or fixed interest rates. In the case of the REScoop “Retenergie”, the most interesting thing is that no patrimonial guarantees have been requested by the bank, because the bank recognized the social and environmental added value of the project.

Finally, Confcooperative (the Italian national federation of cooperatives) set up a fund to support the start-up of new cooperatives.

Energy4All solution for setting up new REScoops in the United-Kingdom

Another innovative solution has been undertaken in the United-Kingdom to support the creation of new REScoops through Energy4All. Energy4All has become a credible organization which helps cooperatives to raise finance and project manage the development of REScoops, therefore giving them credibility in the eyes of the Co-op Bank. As well as being offered primarily to local people the share offers are also marketed to the ‘Community of Interest’ which is anyone in the UK who has an interest in renewable energy.

Most of Energy4All schemes are successful because there are now more than 9000 members of existing co-op who have had a good experience of Energy4All co-ops and are willing to invest in any new co-ops that come along. Energy4All is not a Government agency or an NGO but a self-financing not-for-profit social enterprise.

Lack of guarantees issues and Equity/Debt mechanisms to finance REScoops through public support schemes

It has been pointed out during the interviews conducted for this report that cooperatives lack guarantees more than other businesses. Especially for REScoop, the main obstacle is related to the guarantees that community projects can't give. Banks usually prefer to make business with companies which could demonstrate not only expertise in the field of RES (with a proved track record of projects) but also with patrimonial guarantees. In the case of cooperatives, these guarantees should be given directly by the members, as individuals, and it's quite difficult.

Moreover, in the case of Spain, interviewees point out that without guarantees through the feed-in tariffs and regulated electricity process, ordinary banks are not financing renewable energy through loans any more.

A solution exists in Denmark to have guarantees for loans for the wind power sector, through the possibility for associations of wind energy plant owners and other local initiatives to apply for guarantees for loans for feasibility studies that are conducted in the run-up to the construction of a wind-energy plant.

Public support schemes that are in place in European countries to support the development of RES can be particularly efficient in supporting the financing of projects. The equity and debt financing mechanisms such as grants and loans through public institutions are part of specific national or regional programs that aim at directly financing projects during the construction and start-up phases of the initiative. Nevertheless the availability and implementation of these mechanisms and their efficiency

is central to their positive impact for REScoops. In the case of Spain, public institutions granting credits and loans for different types of projects exist, including for financing renewable energy; however the loans are managed through ordinary banks that manage the granting procedure and demand extensive additional guarantees. These procedures are lengthy and appear too demanding for small scale projects and are barely used by REScoops.

Several examples of relatively efficient public support through loans and grants programs can be found in Croatia, Scotland, Germany or the UK. In Croatia, State aid for financing RES projects can be found through the Croatian Bank for Development and Reconstruction (HBOR) and the Fund for Environmental Protection and Energy Efficiency that operate a loan scheme for RES-E projects. In fact, the Fund for Environmental Protection and Energy Efficiency is obliged to provide subsidies for RES-E projects. Furthermore, there is a quota system, mainly directed at the electricity market operator, which helps the state reach its annual renewable-energy generation target.¹⁴ In Scotland several examples of loans program can be mentioned as well, the fund REIF (Renewable Energy Investment Fund backed by the Scottish government) and the scheme CARES (Community and Renewable Energy Scheme backed also by the Scottish government). Both these instruments also put a particular emphasis on the promotion of community-owned projects and are particularly pertinent for REScoop projects. The REIF fund can provide loans, equity investment and guarantees to the projects, it has a total budget of around 100 million £. The CARES scheme is a loan fund that provides loans with a 10% interest if the project is successful otherwise the loan does not have to be repaid.

Public investment bank programs have also been set up in several countries to support the financing of renewable energy projects. The KfW in Germany is a public investment bank that operates through local banks to allocate low-interest loans to projects. Its Energy program has contributed to financing in 2011, 11 billion € through loans that have been allocated to projects contributing to 41.5% of the total investments in the renewable energy sector in the country (see below). The UK Green Investment Bank has also been set up by the UK government with an initial £3 billion of taxpayer funding. The bank was formed as a public company in May 2012 and became fully operational in October 2012 when it was granted State Aid approval by the European Commission to make investments on commercial terms¹⁵. The interest rates however are rather high, usually higher than the return to members and unless the project has a strong cash flow, this can hit members' returns in the early years or limit what goes into the community fund.

The KfW Energy Program in Germany

The KfW Renewable Energy Program –Standard provides low-interest loans with a fixed interest period of 10 years including a repayment-free start-up period for investments in installations for electricity production, it can finance up to 10 million euros per project.

The Kreditanstalt für Wiederaufbau (KfW) was created in 1948 to manage the Marshall Plan support during the reconstruction period towards the future Federal Republic of Germany (FRG). After 1989 the KfW was given new objectives: managing the financial reunification and the State-owned enterprises. Today, the KfW is in charge of promoting sustainable improvement of the economic, social and ecological living conditions.

The KfW has a financing volume of 81.4 billion euros (2010) and 1/3 of it is allocated to financing conservation and climate adaptation projects. Around 9.5 billion euros have been allocated to financing RES projects in 2010.

The KfW also finances energy saving projects concentrated on residential housing, SMEs support and local communities support. These supports are mainly low-interest loans as well but can also include direct consulting support for specific queries.

¹⁴ See Croatia country report in the Toolbox of the REScoop 20-20-20 project.

¹⁵ See UK country report in the Toolbox of the REScoop 20-20-20 project. Toolbox of the REScoop 20-20-20 project.

Size of REScoop projects

The size of REScoop projects has also been identified as an issue for financing initiatives through financial operators. Indeed, the size of REScoop projects is not always considered interesting for financial operators because they can be either too small or too big. For instance in France, a financial operator pointed out that if the projects are 'too small', in other words when they ask for less than 20 000€ in loans, it still takes a lot of time to manage in terms of time and availability for financial operators but with little return on investment. And in the cases when the projects are 'too big', when they ask for more than 1,5M€ in loans, the financing capacities of the ethical banking sector is too low. Therefore big projects cannot be financed through only 1 financial operator and there has to be a banking pool of different financial operators to support the project. However not every financial operator is ready to set up or participate in a banking pool to finance such projects.

The small size of REScoops can also be a barrier for banks in the United-Kingdom where REScoop projects who are looking to raise less than 1 million £ in debt finance cannot find solutions through the banks because the financial operators do not understand the risks involved on such a small scale.

3 Legal and administrative factors that have consequences on financing REScoops

Renewable energy development is supported through public schemes in most European countries to reach the European targets of RES for 2020, therefore most of the business models of the REScoops are based on regulated market prices and public support schemes. Thus, in countries where the regulation of public support schemes is unstable, it is very difficult for REScoops or other renewable energy projects to develop and build a solid financing plan and business model. The stability of the regulation is underlined in every interview as a key factor for successful renewable energy projects. Moreover, small community groups do not generally have access to good legal advice which they cannot afford unless it happens to be offered voluntarily. They can therefore be taken advantage of by developers, landowners and lending institutions. On the contrary, private developers can often absorb this risk easier by going forward with a portfolio of projects across a range of technologies and scales.

On the other hand, as mentioned earlier in this report, financial operators tend not to finance energy production projects that have not validated a building permit for their installation yet. Therefore, the speed in the authorization process is also a particularly important factor to take into account in developing REScoops and many REScoop project developers underline the length of the authorization process as a fundamental barrier for financing REScoops.

That way, the role of public authorities in promoting and supporting renewable energy development is a key aspect of the growth of REScoop projects in almost all the countries included in the present study. And the regulations that exist and vary according to countries is especially interesting to analyze, given that in most cases, the legal barriers encountered are not the same depending on the countries in which the REScoop is created. The European scale study is a good opportunity to acquire a larger perspective on the manifold national regulations that hinder the financing of renewable energy cooperatives and allows us to have examples of good practices to advocate a change in regulation.

Public offering regulation and access to equity capital for REScoops

One of the barriers underlined through the interviews conducted for this report was closely related to the capacity for cooperatives of raising capital through shares. As mentioned before, the initial capital in renewable energy projects can be particularly high and the ability to raise capital through public offering can be a key asset for REScoops, so the various exceptions to the obligation to publish a prospectus to raise capital through the buying of shares by citizens can have a significant impact. capital or grants because of its level of risk (ECOFYS, 2011).

The ability to raise capital through local citizens buying shares is particularly pertinent for REScoop projects because it allows to directly engage with the local community and not only consult with the citizens or inform them, but to give them the option of being the actual owners of the project. The notion of ownership strengthens the ties and the responsibility of the local community towards the project's success as well as the issues at stake for the energy transition. Including the citizens in the cooperative as members also helps securing part of the economical benefits of the projects in the local community.

The nature of a REScoop and one of its main assets compared to other actors of the renewable energy sector is precisely the fact that they give local citizens the option to take part in the decision making process and benefit directly from the success of the project and therefore increase the general acceptance and enthusiasm for RES development.

The regulation concerning public offering has been framed through the European Directives 2003/71/EC and 2010/73/EU which determine the legal framework of the prospectus to be published when securities are offered to the public or admitted to trading. This regulation therefore sets several rules according to which a prospectus has to be published and the exceptions during which the offer or trading of shares can be done without a prospectus being published.

Exceptions to the publication of a prospectus for public offerings¹⁶ - European Directives on Public Offerings

"The Member States do not authorize any offering of securities to the public on their territory unless a prospectus has been published previously, except where an offer of securities:

- is addressed solely to qualified investors; and/or
- is addressed to fewer than 150 natural or legal persons other than qualified investors; and/or
- is addressed to investors who acquire securities for a total consideration of at least EUR 100 000 per investor, for each separate offer; and/or
- has a denomination of at least EUR 100 000; and/or
- has a total value in the EU, over a period of 12 months, of less than EU 100 000.

This Directive therefore provides for derogations."

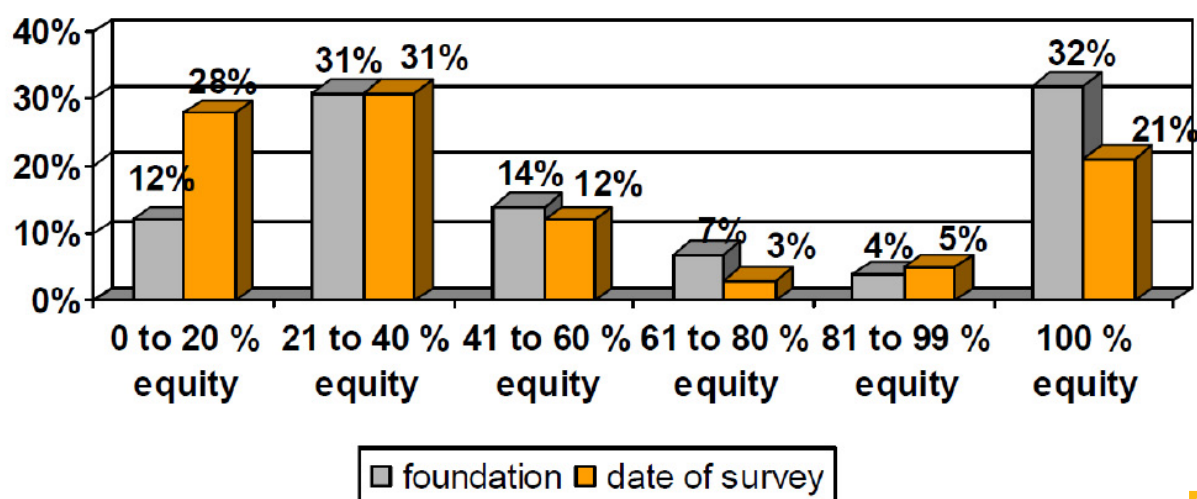
Several derogations exist which are included in the Directive 2003/71/EC and amended in the Directive 2010/73/EU and which explain the cases when the obligation to publish a prospectus does not apply. One of these cases is the following: "Securities included in an offer where the total consideration for the offer in the Union is less than EUR 5 000 000, which shall be calculated over a period of 12 months" (Directive 2010/73/EU).

Nevertheless in several European countries, the national regulations allow a wider flexibility to the public offering regulation when cooperatives are concerned; and today in several countries like Germany, Italy, Belgium, the United Kingdom or Denmark most of the cooperatives base their raising of capital on the buying of shares by citizens.

In Germany for instance, cooperatives are not submitted to the obligation to publish a prospectus when proceeding to a public offering. As a consequence, the German cooperatives are able to raise capital more easily and have access to the local citizen investment. The results of a study carried out in spring 2012 by the DGRV (German Cooperative and Raiffeisen Confederation) show that: "Energy cooperatives are characterized by rather high equity ratios. They start with average equity ratios of more than 50%. One third of the cooperatives start without any debt capital at all." (DGRV, 2012).

¹⁶europa.eu/legislation_summaries/internal_market/single_market_services/financial_services_transactions_in_securities/l24033c_en.htm

Equity ratio (in %):



10

Source: DGRV, 2012.

That way, the 586 German energy cooperatives identified in the study have invested an average of 1.6 million euros per cooperative, amounting to a total investment of about a billion euros.

In Belgium, it also appears that cooperatives are mainly financed through shares once the cooperative model is accepted and expands in the local or regional level. Moreover, most of the Belgian renewable energy cooperatives ask for their consumers to buy at least one share in order to be able to consume energy from the REScoop. It is the case of Ecopower that finances projects mainly through shares, using only short term (12 month) loans in case the necessary capital is not available right away.¹⁷ In addition to that fact which can explain part of the capacity of certain well-known Belgian cooperatives to self-finance their projects nowadays, the existence of an exemption of the prospectus publication for cooperatives also plays an important part in facilitating the financing of REScoops. Indeed, when registered and approved by the National Cooperative Council of Belgium, public offerings can be undertaken by cooperatives without prospectus as long as the total sum of the offering does not exceed 5 000 000€ a year in capital from the public (Belgium regulation for public offering – Law of the 16th of June 2006 – Article 18).

The regulation of public offering can be more flexible in the cases of REScoops specifically because cooperative principles include basic protection rules for the members of the cooperative like financial transparency or equal and democratic membership control as mentioned in the International Cooperative Alliance principles.¹⁸ However in other countries the regulation is an important barrier for REScoop projects to raise capital through public offering. It is the case in France for instance, where cooperatives do not benefit from exemptions for publishing a prospectus and where the limits are strictly applied to any public offering. Furthermore, the procedure to publish a prospectus for a public offering is costly and must be validated by the French public financial regulator (AMF) which then gives a visa for the public offering. This process is generally long and cannot be undertaken by citizens who do not have any legal or financial expertise. Finally, the strict regulation is not adapted to citizen-led projects because they often include many participants but who are investing rather small amounts compared to the total amount needed for financing a project. An example of solution created in France to mobilize citizen investment while minimizing the costs for the public offering is the case of Energie Partagée (see box below).

¹⁷ See Ecopower as a Best Practice in the Best Practice report (WP2)

¹⁸ See European REScoop Charter – Common ethical values - www.rescoop.eu/european-rescoop-charter

Energie Partagée: A French initiative of citizens joining forces to overcome the public offering difficulties in France

In France, renewable energy initiatives gathering citizens, communities, public and private actors grow in number but the main challenge remains raising sufficient capital to launch the projects.

The French investment fund Energie Partagée Investment has been launched recently to give the opportunity to communities to finance together local RES-electricity production and energy saving projects; it is the first citizen investment fund that finances local and citizen-led RES production projects in France. The first public offering closed on September 26, 2012 and gathered more than 1.600 subscribers.

In other cases, the development of other tools has been a solution to raise enough initial capital, like the tool of crowdfunding. Crowdfunding is characterized by the possibility to raise many small amounts of capital through many participants. It is now mainly used through the Internet to finance projects that are directly chosen by the citizens who become involved as investors in the project development. In certain countries there is not specific regulation that applies to crowdfunding through the Internet, specifically because the Internet cannot ascertain that the public offer will be seen by only a limited amount of people.

Som Energia: Spanish Crowdfunding, an innovative solution to raise initial capital for new projects

In Spain, the Som Energia cooperative project was created in December 2010 and acquired more than 5000 members in their first years. The financing model of Som Energia is mainly based on the investment of members into the cooperative through 2 options:

- Buying shares of the cooperative to become a member (1 share = 100€ with dividends around 3,5%)
- Buying participatory securities – invested during 5 years to finance new projects of the cooperative (with an expected return on investment of 4 to 7%).¹⁹

According to members of the cooperative: *“citizens are willing to invest their savings in REScoop development as proved by the crowdfunding experience of Som Energia and the financial crisis was actually seen as an opportunity for citizens to invest directly in the project instead of investing in financial operators which lost the trust of the citizens after the crisis.”*

Administrative barriers: cost and access to the grid

The cost and access to the grid has been identified as one of the barriers for financing REScoop projects in several countries of the study. Several grid issues have been pointed out by the interviewees, one of which is directly linked to the access to the grid and the quality of the grid. In fact, the grid is sometimes not developed enough in certain parts of Europe or not well adapted to renewable energy (ECOFYS, 2011). Also, if the grid is saturated then the delay to be connected to the grid is often long and becomes a crucial factor in the success of the project. For instance in Croatia, where the REScoop wind power projects and their investors are currently facing the problem of the total wind power that can be connected to the Croatian grid. Indeed, the total amount of power from wind is restricted to 360MW for all of Croatia due to regulation reasons which could be dealt with, as pointed out by our interviewees, if better regulation for equipment and procedures were applied.

In the United-Kingdom, the distribution and transmission systems are privatized so in order to secure a grid connection a large deposit is required. If this is not done ahead of consent the risk for REScoop projects is losing their place on the waiting list.

¹⁹ Som Energia website – How to invest: www.somenergia.coop/es/modalidades-de-inversion

It is then possible to have a very large cost to connect which changes as time goes by; so the projects might start with an affordable connection cost, but if REScoops don't accept a connection offer at the feasibility stage of their project it could be 3 or 4 times the cost when they get consent and therefore have a non-viable project.

A good regulation like the priority access for RES into the grid in Spain²⁰ also exists in Italy for instance; however the application of this regulation has not been effective. When the priority access for RES into the grid was validated through legal tools, the demand for the use of the grid by renewable energy could be done in a preliminary stage, before the permitting procedure and without the obligation for the applicants to effectively build the plant. This situation gave the applicants the right to sell their permit for using the grid to other operators. The grid was therefore virtually occupied, creating a barrier to the access of other applicants willing to ask for the permit to the regulatory agency and not at a market price.

The low predictability of renewable energy sources is often mentioned by the grid operators or the public authorities as a factor influencing the connection to the grid of RES projects; however interviewees explain that the predictability of renewable energy sources is good today and should not be a valid argument to reject electricity from renewable sources on the grid.

Finally, as already mentioned before as an obstacle to financing REScoop projects, the size of the project is sometimes taken into account for the connection to the grid and small scale projects are meeting difficulties of access to the grid when bigger companies often do not encounter that problem.

The cost and length of the procedures to have access to the grid are a tangible obstacle for REScoops because they can be dependent on the date of the official validation of their access to the grid to start their project, to get their permit procedure started or validated, to benefit from financial support from their investors or public support schemes.

Unstable regulation

The REScoop projects are often basing their business model on the current regulation and the public support schemes are taken into account to secure investments in the projects. The support of RES development through Feed-in tariffs, premiums, or other types of public schemes for selling and supplying energy are widely spread in the European countries included in the report. These schemes are in themselves providing a certain vision for the investors on a medium to long-term basis and to be able to reduce the uncertainty linked to the market price is a tremendous element of security for the financial operators. Nevertheless, for a majority of interviewees, an unstable regulation has been identified as a major risk for the development of REScoop project (or RES projects in general). The element of stability provided by a public scheme is not effective enough if the schemes are altered frequently or if the scheme is not efficient enough in reducing uncertainty for investors. It is the case for instance in Belgium, the United Kingdom, France or Italy where the stability and the clarity of the rules for the financial support is not sufficient, or in Spain where tariffs were retroactively altered.

In Belgium, the budget allocated for direct subsidies for financial support to the development of RES is limited per type of support and per region and therefore do not represent a source of stability for investors. Also in Belgium, the fact that all three regions (Flanders, Brussels and the Walloon regions) have different support schemes and that the long term vision on a federal level is not clear represents a clear source of instability for both REScoops and financial operators²¹.

In the UK the interviewees underlined that the regulation is not stable, especially since the reduction of the feed-in tariffs which had an important impact on REScoops and RES development in general and increased instability on the market. In 2012 the UK government cut the feed-in-tariff for PV by half and again reduced it before the end of 2012, stating this was to reflect the falling cost of solar panels but also admitted its expectations had been far too low, with three times as much solar installed as it had projected.

²⁰In Spain, renewable energy plants are statutorily entitled to priority access to connection to and use of the grid (See Spain country report in the Toolbox of the REScoop 20-20-20 project/Toolbox of the REScoop 20-20-20 project).

²¹See Belgium country report in the Toolbox of the REScoop 20-20-20 project.

In France, the legal framework for solar power underwent 5 modifications since 2010 and a drastic suspension of the regulated tariffs between January 2010 and March 2011. These brutal alterations of the regulatory framework had a tremendous impact on the sector and increased uncertainty for the potential investors.

Another example can be given through the case of Italy, where the public support schemes for developing RES are not only complex and fragmented, but also extremely unstable. During the last 10 years, the Italian supporting schemes changed almost every year, creating a particularly unstable and uncertain environment for private investors and funders. A specific example is the case of the REScoop project started in Trentino which has been forced to abandon the initiative due to the change of legal framework on Italian PV support scheme (the « V conto energia ») and altered the rules for benefiting from the scheme. This instability also plays an important role in building the trust of financial operators and more particularly banks towards renewable energy developers because of the uncertainty of access to the regulated tariffs. In Italy the profitability of the wind parks was strongly distorted through a change in the supporting system which cancelled the Green Certificates and introduced a “premium to difference” in favor of small installations (<5MW)²².

The good practice of Germany can illustrate the importance of having a stable legal framework to encourage investment and reassure financial operators. Indeed, the German Renewable Energy Act (Erneuerbare Energien Gesetz: EEG) that entered into force in 2000 permitted to set a strong legal framework for making renewable energy more competitive. This framework has not undergone drastic changes since 2000, 3 major revisions were brought to the act but with timely announcement of future changes, and no brutal changes to the support schemes were brought compared to the changes that occurred in other European countries mentioned above. This medium to long term legal stability has allowed Germany to encourage investors to finance for instance 8 GW of PV projects in 2011 with lower tariffs and less hours of sunshine than in countries like France, Italy or Spain (Grandjean, 2012).

As such, the instability of the legal framework is as much a barrier for financing REScoops as the quantity and complexity of regulations or the speed of the authorization process. For instance in France the wind power project of Eoliennes en pays de Vilaine (EPV) had to undertake a thorough impact study of the wind installations on the site, however the length of the authorization process was so long that the regulation changed before it could be validated so the REScoop had to undertake a second round of impact studies.

The current economic situation due to the financial crisis has also led to an increased instability for certain countries. The situation has affected not only the public support schemes in various countries that decided to lower them since 2011, but has also affected the trust of the financial operators in the renewable energy sector. In Greece, Spain or Italy for instance the impact of the crisis has led to new financing constraints for the REScoop projects. In Spain, the public subsidies and credit institutes for loans have been suspended and the main support scheme (the “Regimen Especial”) which operated until the end of 2011 was suspended as well at the beginning of 2012. In Greece, the banks are facing a tremendous liquidity problem and are not investing in renewable projects which can represent risky investments due to the Greek economic situation.

Nonetheless, the financial crisis also represents a ripple effect on financing of REScoops because it has somewhat influenced the perception citizens have of financial operators. That way, more and more citizens are choosing to invest in financial products they understand or chose to invest in local and social economy projects like REScoops. It is the case in Spain, as mentioned above, for the Som Energia project and the tendency is also rising in Greece.

²²See Italy country report in the Toolbox of the REScoop 20-20-20 project.

Others

A specific barrier has been pointed out by our interviewees from Croatia which is particularly impacted by the obstacle of fossil fuel subsidies. The country and most particularly the island territories are dependent on continuous and regular fossil fuel energy installations that depend on the supply of fuel to the country. This supply is very costly and specific subsidies exist to buy fossil fuel to supply energy to these territories. These subsidies to fossil fuel represent in and of themselves a very strong barrier for the development of RES.

III. Considerations on financial models for REScoop

Even if there still are some barriers to the financing of REScoops, it seems that the European general financing context is in favor of such citizen projects:

- Public supports exist at European, national, regional or local levels. In some cases these supports need to be improved but from now some of them work well enough to make REScoops possible.
- Despite the crisis savings are still relevant in Europe, even in countries like Spain where crisis is huge. It means that there is cash among households to invest in projects.
- Said negatively more and more European citizens have enough from big parts of mainstream financial systems. Said positively more and more European citizens are not only interested by ethical/local/citizen funding, but even ready to try such an investment.

In this context REScoops have strong qualities to convince more citizens to invest in: locally based and environment friendly, they make sense for people looking for more ethics in finance; benefiting from public supports, strong guarantees, long term contracts, etc., they offer a financial security and sometimes profitability; their only default could be a lack of liquidity as they are long term oriented projects, but this is not a problem for citizen long term savings (savings for pension for instance if possible or investing for a child or grandchild).

In order to transform these opportunities into reality, REScoops must succeed in:

- Reassuring citizens about their seriousness and rigor. One good example is to find in Germany with the "Oekogenero cooperative" projects: ten years ago Oekogenero launched its first "Solarfond" and proposed to citizens to invest in a PV plant. 10 years later, Oekogenero is launching the 9th "Solarfonds" in Germany. In 10 years 900 citizens invested more than EUR 7 million in such REScoops (for a total equity amount of EUR 16 Million), which are all profitable and secure. A lot of them invested many times, because they were reassured with the model and with the financial structure. Thanks to such a confidence in the cooperative, Oekogenero is now also working on other citizen funds dedicated to green buildings.
- Trying to mutualize the risks in order to avoid financial crashes if the money of one citizen is invested in one particular project and that this particular project had difficulties. This is what "Energie Partagée" in France is doing. Even if the citizen-investor can choose the project he would like its investment could finance, Energie Partagée is a pooling, investing in different types of RES-projects, in different regions, with different technologies. Such a pooling allows diversifying the REScoop's activities which has an impact on the "quality" of risks supported by the REScoop.

If REScoops succeed in reassuring citizens and mutualizing the risks, as well as in communicating to be more visible than today, they may be able to develop and to be considered as a good financial saving for citizens looking for sense and security.

All in all, REScoops are not facing such difficulties for raising finance but it is all the other factors that constrain their growth in the economy. By creating clear, distinct policies in the planning system, grid connection and incentive systems that give advantages to REScoops, citizen-led projects could thrive and deliver all the other social outcomes that could benefit directly to communities across the European Union.

IV. Annexes

1 Bibliography

Belgium regulation for public offering – Law of the 16th of June 2006 – Article 18. Available in French from: http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=fr&la=F&table_name=loi&cn=2006061630

CHLOUPKOVA, J; SVENDSEN, G.L.H. & SVENDSEN G.T. (2003). Building and destroying social capital: The case of cooperative movements in Denmark and Poland. *Agriculture and Human Values*, 20, 241-252 p.

DANISH ENERGY AGENCY (2012). Energy Policy in Denmark. 30 pp. Available at: http://www.ens.dk/sites/ens.dk/files/dokumenter/publikationer/downloads/energy_policy_in_denmark_-_web.pdf

DESESSARD, J (2012). Rapport au nom de la commission d'enquête sur le coût réel de l'électricité afin d'en déterminer l'imputation aux différents agents économiques. [Sénat, N°667]. 464 pp.

DESOLASOL, TRIODOS BANK (2006). Basics on PV (photovoltaic) projects finance. [N° IEE/05/078]. 28 pp. Available from: http://www.iee-library.eu/index.php?option=com_jombib&task=showbib&id=805&return=index.php%3Foption%3Dcom_jombib%26amp%3BItemid%3D99999999%26amp%3Bcatid%3D57%26amp%3Border%3Dtitle

DGRV (2012). Energy Cooperatives: Results of a survey carried out in spring 2012. Available from: <http://www.dgrv.de/en/cooperatives/newcooperatives/energycooperatives.html>

ECOFYS, FRAUNHOFER ISI, TU VIENNA EEG, ERNST & YOUNG (2011). Financing Renewable Energy in the European Energy Market. By order of the EUROPEAN COMMISSION, DG Energy. 264 pp. Available from: http://ec.europa.eu/energy/renewables/studies/renewables_en.htm

ECORYS (2010). Assessment of non-cost barriers to renewable energy growth in EU Member States. By order of the EUROPEAN COMMISSION, DG Energy and Transport. 169 pp. Available from: http://ec.europa.eu/energy/renewables/studies/renewables_en.htm

ENERGIE-INFO (2012). Synthèse Baromètre Energie-Info 2012. Available from: <http://www.energie-info.fr/en-savoir-plus/ouverture-marche>

ENERGY EFFICIENCY WATCH (2012). Progress in energy efficiency policies in the EU Member States – the experts perspective. Landstrasse, Austria. 97 pp. Available from: <http://www.energy-efficiency-watch.org/>

EUROPEAN COMMISSION (2007). Renewable Energy Road Map, Renewable energies in the 21st century: building a more sustainable future. [COM (2006) 848] final – not published in the Official Journal. 20 pp.

EUROPEAN COMMISSION (2013). Renewable energy progress report. [COM (2013)175] final. 15 pp.

EUROPEAN COMMISSION (2013). Renewable energy progress report: Commission staff working document. [SWD(2013)102] final. 33 pp.

EUROPEAN ENERGY AGENCY (2012). National Renewable Energy Action Plan (NREAP) data from Member States. [Accessed on the 23/08/2013] From: <http://www.eea.europa.eu/data-and-maps/figures/national-renewable-energy-action-plan-1>

EVCA (2011) PEREP_Analytics. Available from: <http://www.evca.eu/knowledgecenter/latestdata.aspx?id=500>

GRANDJEAN, A. SIVY, C. THIBAUT, B. & WAGNER, A. (2012). Transition Energétique: financer à moindre coût les énergies renouvelables. Terra Nova. 27 pp. Available from: <http://www.tnova.fr/note/transition-nerg-tique-financer-moindre-co-t-les-nergies-renouvelables>

HUYBRECHTS, B. & MERTENS, S. (forthcoming). The potential of the cooperative model in the field of renewable energy in Europe. *Annals of Public & Cooperative Economics*.

IEA (2011). Energy Policies of IEA Countries: Denmark 2011 Review. 158 pp. Available from: <http://www.iea.org/publications/freepublications/publication/name,34631,en.html>

IPCC (2011). Summary for Policymakers. In: IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [O. Edenhofer, R. Pichs-Madruga, Y. Sokona, K. Seyboth, P. Matschoss, S. Kadner, T. Zwickel, P. Eickemeier, G. Hansen, S. Schlömer, C. von Stechow (eds)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 24 pp.

OPTRES, EUROPEAN COMMISSION (2007). Assessment and optimisation of renewable energy support schemes in the European electricity market. 246 pp. Available from: http://ec.europa.eu/energy/renewables/studies/renewables_en.htm

IPSOS, UQAM (2012). The Cooperative Movement: A global research study on perceptions towards cooperatives. Quebec 2012 International Summit of Cooperatives. 15 pp. Available from: <http://www.intlsummit.coop/sites/somint/home/bibliotheque-virtuelle/etudes.html>

REScoop 20-20-20 (2013), Best Practice report Part I. Brussels: IEE/11/930- RESCOOP 20-20-20 project co-funded by the Intelligent Energy Europe Programme of the European Union. 64 pp. Available at: <http://rescoop.eu/best-practices>

RUDINGER, A. (2013). L'enjeu du financement de la transition énergétique : Le cas de l'Allemagne. IDDRI. 18 pp.

SVENDSEN, G.L.H. & SVENDSEN G.T. (2000). Measuring Social Capital: The Danish Co-operative Dairy Movement. *Sociologia Ruralis*, 40(1), 72-86p.

UNEP (2004). Financial Risk Management Instruments for Renewable Energy Projects: Summary document. United Nations Publication, Oxford, UK. 52 pp.

WIEG, A. VEBHOFF, J. BOENIGK N. DANNEMANN, B & THIEM, C. (2012) Energy Cooperatives: Citizens, communities and local economy in good company. DGRV. 20pp. Available from: <http://www.dgrv.de/en/cooperatives/newcooperatives/energycooperatives.html>

2 More information

RES	Investment costs (€/kWel)	O&M costs [€/ (kWel*year)]	Lifetime average (years)	Plant size (MWel)
Biogas	1350 - 4525	50 - 175	25	0,1 - 8
Biomass	450 - 4375	65 - 176	30	1 -- 25
Biowaste	5500 - 7425	145 - 258	30	2 _ 50
Geothermal	2575 - 6750	113 - 185	30	5 -- 50
Large Hydro	850 - 5750	35	50	20 - 250
Small Hydro	975 - 6050	40	50	0,25 - 9,5
PV	1800 - 4750	30 - 42	30	0,005 - 0,05
Solar thermal	3600 - 5025	150 - 200	30	2 -- 50
Tidal	5650 - 8000	145 - 160	25	0,5 - 2
Wave	4750 - 7500	140 - 155	25	0,5 - 2
Wind onshore	1000 - 1525	35 - 45	25	2,0
Wind offshore	2450 - 3500	90 - 120	25	5,0

3 List of Illustrations for the report on financial barriers and existing solutions

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