

Report on innovative financing models for wind farms

APERe asbl & REScoop.be

February, 2015

FINAL Version

Dissemination level: Consortium & Public

Agreement n.:

Duration

Coordinator:

Supported by:

IEE/13/528/S2.674872

May 2014 - October 2016

EWEA





Legal disclaimer

The sole responsibility for the content of this report lies with the WISE Power consortium. It does not necessarily reflect the opinion of the European Union. Neither this document nor the information contained herein shall be used, duplicated or communicated by any means to any third party, in whole or in parts, except with prior consent of the WISE Power consortium. Neither the Executive Agency for Small and Medium-sized Enterprises (EASME) nor the European Commission are responsible for any use that may be made of the information contained herein.



DOCUMENT INFORMATION

Deliverable number	D 3.1
Deliverable name	Report on innovative and feasible alternative financing models
Reviewed by	APERe
Date	February, 2015
Work Package and Task	WP3, T3.1
Lead Beneficiary for this Deliverable	Consortium & public

MAIN AUTHORS

Name	Organisation	E-mail
Bruno Claessens	APERe	bclaessens@apere.org
Suzanne Keignaert	APERe	skeignaert@apere.org
Dirk Knapen	REScoop.be	dirk.knapen@rescoop.be
Jennifer Ramsay (proof-reading)	Scottish Government	jennifer@localenergyscotland.org



TABLE OF CONTENTS

Exe	cutive	e summary	6		
Spe	Special thanks to the Finance AB members:6				
1	Glos	ssary	7		
Ind	ex of	country	10		
2	Intro	oduction	11		
3	Met	thodology	12		
4	Expe	ectations of the analysis	13		
5	Pres	sentation of the data	15		
5	5.1	Number of filled in questionnaires by country	15		
5	5.2	Organisation type of the 207 respondents	16		
6	Con	nventional forms of funding	18		
6	6.1	Types of conventional funding models used in projects	18		
6	6.2 2012	Numbers of windfarms financed by conventional forms of funding in the last three years 2 – 2014)	s 19		
6	6.3	Analysis by target countries	20		
6	6.4	Analysis by organisation	21		
7	Innc	ovative forms of funding	22		
7 7	Inno 7.1	ovative forms of funding Types of innovative forms of funding used in projects	22 22		
7 7 7 -	Inno 7.1 7.2 • 201	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (24)	22 22 012 24		
7 7 7 - 7	Inno 7.1 7.2 • 201 7.3	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (2 L4) Analysis by target countries	22 22 012 24 24		
7 7 - 7 7	Innc 7.1 7.2 7.3 7.4	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (2 L4) Analysis by target countries Analysis by organisation	22 22 012 24 24 25		
7 7 7 7 7 8	Innc 7.1 7.2 7.3 7.4 Expe	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (20 14) Analysis by target countries Analysis by organisation perience with innovative financing models	22 22 012 24 24 25 26		
7 7 7 7 7 8	Innc 7.1 7.2 201 7.3 7.4 Expe 3.1	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (20 14) Analysis by target countries Analysis by organisation berience with innovative financing models Effect on financial conditions, securing funding and social acceptance	22 22 012 24 24 25 26 26		
7 7 7 7 8 8	Innc 7.1 7.2 7.3 7.4 Expe 3.1 8.1.	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (24) (4) Analysis by target countries Analysis by organisation perience with innovative financing models Effect on financial conditions, securing funding and social acceptance 1 Effect on financial conditions	22 22 012 24 24 25 26 26 26		
7 7 7 7 7 8 8	Inno 7.1 7.2 201 7.3 7.4 Expe 3.1 8.1. 8.1.	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (24) Analysis by target countries Analysis by organisation perience with innovative financing models Effect on financial conditions, securing funding and social acceptance 1 Effect on financial conditions	22 22 012 24 24 25 26 26 26 27		
7 7 7 7 7 8 8	Inno 7.1 7.2 201 7.3 7.4 Expo 3.1 8.1. 8.1. 8.1.	ovative forms of funding Types of innovative forms of funding used in projects Number of windfarms financed by innovative forms of funding in the last three years (2- 14) Analysis by target countries Analysis by organisation perience with innovative financing models Effect on financial conditions, securing funding and social acceptance 1 Effect on financial conditions 2 Relevance for securing funding 3 Effect on social acceptance	22 22 012 24 24 25 26 26 26 27 28		
7 7 7 7 7 8 8 8 8	Inno 7.1 7.2 201 7.3 7.4 Expo 3.1 8.1. 8.1. 8.1. 8.2 ype of	ovative forms of funding	22 22 012 24 24 25 26 26 26 26 27 28 29		
7 7 7 7 8 8 8 8	Inno 7.1 7.2 201 7.3 7.4 Expo 3.1 8.1. 8.1. 8.1. 8.2 ype of 8.2.	ovative forms of funding	22 22 012 24 24 25 26 26 26 26 27 28 29 29 29		
7 7 7 7 8 8 8	Inno 7.1 7.2 201 7.3 7.4 Expo 3.1 8.1. 8.1. 8.1. 8.2 ype of 8.2. 8.2.	ovative forms of funding	22 22 012 24 24 25 26 26 26 27 28 29 29 31		



	8.3 Ef	fect on financial conditions, securing funding and social acceptance as experienced b	зу
	stakehold	ders by country of origin:	33
	8.3.1	Effect on financial conditions by country of origin	33
	8.3.2	Effect on securing funding by country of origin	34
	8.3.3	Effect on social acceptance by country of origin	35
9	Perceiv	ed impact of innovative financing models	36
	9.1 Pe	erceived effect on bankability, successful implementation and social acceptance	36
	9.1.1	Effect on bankability	36
	9.1.2	Effect on support for a successful implementation	37
	9.1.3	On social acceptance	38
	9.2 Pe of organis	erceived effect on bankability, successful implementation and social acceptance by ty sation	/pe 39
	9.2.1	Effect on bankability by type of organisation	39
	9.2.2	Effect on support for a successful implementation by type of organisation	40
	9.2.3	Effect on social acceptance by type of organisation	41
	9.3 Pe	erceived effect on bankability, successful implementation and social acceptance by f origin	42
	9.3.1	Effect on bankability by country of origin	42
	9.3.2	Effect on support for a successful implementation by country of origin	43
	9.3.3	Effect on social acceptance by country of origin	44
1(fo	Class rms of fur	sification of the stakeholders expected to be the most supportive towards alternative nding	45
1	<u>1</u> Wha ⁻	t financing mechanisms to best contribute to enhancing social acceptance?	47
	11.1	Private partnerships	48
	11.2	Crowdfunding	49
	11.3	Underwriter fund	50
	11.3.1	Underwriter fund with public institutions	50
	11.3.2	Underwriter fund with cooperatives	52



TABLE OF FIGURES

FIGURE 1.	NUMBER OF FILLED IN QUESTIONNAIRES BY COUNTRY	15
FIGURE 2.	NUMBER OF FILLED IN QUESTIONNAIRES BY ORGANISATION TYPE	16
FIGURE 3.	ORGANISATIONAL AFFILIATION OF THE 207 RESPONDENTS	17
FIGURE 4.	CONVENTIONAL FORMS OF FUNDING	18
FIGURE 5.	CONVENTIONAL FUNDING MODELS BY TARGET COUNTRIES	20
FIGURE 6.	CONVENTIONAL FUNDING MODELS BY ORGANISATION	21
FIGURE 7.	INNOVATIVE FORMS OF FUNDING	22
FIGURE 8.	ONE SINGLE PROJECT CAN INCLUDE SEVERAL FUNDING MODELS, EVEN COMBINING	
	CONVENTIONAL AND INNOVATIVE MECHANISMS	23
FIGURE 9.	INNOVATIVE FORMS OF FUNDING BY TARGET COUNTRIES	24
FIGURE 10.	INNOVATIVE FORMS OF FUNDING BY ORGANISATION	25
FIGURE 11.	ON FINANCIAL CONDITIONS BY TYPE OF ORGANISATION	29
FIGURE 12.	ON SECURING FUNDING BY TYPE OF ORGANISATION	31
FIGURE 13.	ON SOCIAL ACCEPTANCE BY TYPE OF ORGANISATION	32
FIGURE 14.	ON FINANCIAL CONDITIONS BY COUNTRY OF ORIGIN	33
FIGURE 15.	ON SECURING FUNDING BY COUNTRY OF ORIGIN	34
FIGURE 16.	ON SOCIAL ACCEPTANCE BY COUNTRY OF ORIGIN	35
FIGURE 17.	ON BANKABILITY BY TYPE OF ORGANISATION	
FIGURE 18.	ON SUPPORT FOR A SUCCESSFUL IMPLEMENTATION BY TYPE OF ORGANISATION	40
FIGURE 19.	ON SOCIAL ACCEPTANCE BY TYPE OF ORGANISATION	41
FIGURE 20.	ON BANKABILITY BY COUNTRY OF ORIGIN	42
FIGURE 21.	ON THE SUPPORT FOR A SUCCESSFUL IMPLEMENTATION BY COUNTRY OF ORIGIN	43
FIGURE 22.	ON SOCIAL ACCEPTANCE BY COUNTRY OF ORIGIN	44
FIGURE 23.	STAKEHOLDERS: MOST SUPPORTIVE TO MOST CRITICAL	45
FIGURE 24.	FOCUS ON PROJECT DEVELOPERS BY TARGET COUNTRIES	

WISE Power project partners

- European Wind Energy Association EWEA (BE) The Coordinator
- Acciona Energia Acciona (ES)
- Terna Energy Terna (GR)
- Scottish Government (UK)
- Comhairle nan Eilean Siar, Regional Authority for the Outer Hebrides in Scotland (UK)
- Municipality of Guldborgsund (DK)
- Provincia di Savona (IT)
- DUNEA I.I.c. Regional Development Agency Dubrovnik Neretva County DUNEA (HR)
- Association pour la Promotion des Energies Renouvelables APERe (BE)
- Asociation Empresarial Eolica AEE (ES)
- REScoop.be (BE)
- Fraunhofer ISI Fraunhofer (DE)
- German Energy Agency dena (DE)
- United Nations Development Programme Croatia- UNDP Croatia (HR)



Executive summary

Based on a questionnaire drafted by Fraunhofer-ISI, APERe and REScoop, this report on innovative financing models for wind farms aims to identify promising measures and solutions for alternative financing.

Upon compilation and analysis of the answers of the questionnaire on financing measures it envisages innovative solutions, and models implemented in the countries under study. The analysis will also help to highlight the key strengths and weaknesses of these models.

From there, promising measures and solutions for alternative financing will be chosen and analyzed on the basis of their replicability in the target countries (financial/juridical/technical analysis). To validate these measures and solutions, they will be confronted to the experience of local financial and funding institutions: the Finance Advisory Board will discuss alternative proposed measures and provide recommendations.

The results will disseminate investment options dedicated to wind energy projects or specific wind energy (investment funds, public-private partnerships, etc) and suggest new bankable innovative models.

→ This report on innovative and feasible financing models for wind farms - that have proven efficient in the countries determined by the Consortium - helps wind energy projects to have access to alternative solutions more rapidly, and, by so doing, to enhance social acceptance.

Special thanks to the Finance AB members:

- Martin Behar, Cooperatives Europe
- Bernard Horenbeek, Credal Belgium
- Goran Jeras, Ebanka Croatia
- Mike Kramer, Trianel Germany
- o Klaus Niederlander, Cooperatives Europe
- o Rudolf Plasil, Raiffeisen Austria
- o James Vaccaro, Triodos United Kingdom
- o Dirk Vansintjan, Ecopower Belgium



1 Glossary

• Alternative financing model

An alternative financing model is a financing mechanism intentionally targeted to organisations and customers which show both a social result and a financial return (liking social engagement with financial results), which define measurable social objectives and which assess their achievement. (Task force G8, 2015).

Bankability

Having a reputation or influence that ensures the success of a project. Acceptable for processing by a bank. (Dictionary Reference, 2015).

Bank loan

Loan that a business owners gets from a bank. (Entrepreneur, 2015).

Bond issue

Debt investment in which an investor loans money to an entity (corporate or governmental) that borrows the funds for a defined period of time at a fixed interest rate. (Investopedia, 2015).

Cash-pool

Cash management technique employed to compensate credit and debit positions of various entities of one group. The main advantage of cash pooling is to avoid that entities with a debit position borrow money on the market. (Investorwords, 2015).

Crowdfunding

Participative mechanism of funding a project by raising monetary contributions from a large number of people, typically via the Internet. The contributions can be rewarded or not. The rewards can bear various forms, described below. There is no automatic obligation of result in terms of amount collected. (Wise Power 2014).

Crowdfunding can be:

- Donation-based: no monetary reward
- Reward-based: supporters of the project receive some form of reward
- Lending-based: funding based on loans from private partners
- *Equity-based*: funding mechanism enabling to become a shareholder of the company or organisation developing the project (corresponds to cooperative model)



DSO

Distribution System Operator: company responsible for operating, ensuring the maintenance and developing the electricity distribution system and its interconnections with other systems, and for ensuring the ability of the system to meets the demand for the distribution of electricity.

• Ethical bank

Ethical banking is the term that encompasses any banking system that embraces environmentally and socially conscious practices. While the banks still try to earn profits, they try to do it in the way that is consistent with their practices. (Financial, 2015).

Equity

A stock or any other security representing an ownership interest. (Investopedia, 2015).

• Financial conditions

The status of a firm's assets, liabilities and equity positions at a specific point in time, often described in a financial statement. (Investorwords, 2015).

• Innovative funding models

Innovative funding models are mechanisms enabling to finance a project or part of it, other than by usual bank loans or long-term credits granted by financial institutions. Often these innovative models are set up by actors which are not traditional actors of the financial sector. (Wise Power 2014).

Investment fund

A supply of capital belonging to numerous investors that is used to collectively purchase securities while each investor retains ownership and control of his or her own shares. An investment fund provides a broader selection of investment opportunities, greater management expertise and lower investment fees than investors might be able to obtain on their own. Types of investment funds include mutual funds, exchange traded funds, money market funds and hedge funds. (Investopedia, 2015).

Market liquidity

The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity. Assets that can be easily bought or sold are known as liquid assets. (Investopedia, 2015).

• PP = Private partnership



In this study, a private partnership means a structure involving one or several private developers and/or one or several citizen cooperative(s) committing funds to own a wind farm or part of it (Wise Power 2015).

• PPP = Public private partnership

In this study, a public private partnership means a partnership between one or several privatesector companies and one or several public entities for the purpose of owning a wind farm or part of it. Public-private partnerships can be used to finance, build or operate projects. (Wise Power, 2015).

Public funding

Money that is generated by the government to provide goods and services to the general public. (Business dictionary, 2015).

Share issue

The number of authorized shares that is sold to and held by the shareholders of a company, regardless of whether they are insiders, institutional investors or the general public. (Investopedia, 2015).

Social acceptance

Social Acceptance is an often used term in the practical policy literature, but clear definitions are rarely given. We intend to contribute to the clarity of understanding by distinguishing three dimensions of Social Acceptance, namely socio-political acceptance, community acceptance and market acceptance. (Task28 IEA, 2015).



TSO

Transmission System Operator: legal entity responsible for transporting electricity on a national or regional level, using fixed infrastructure.



• Underwriter fund

The process by which investment bankers raise investment capital from investors on behalf of corporations and governments that are issuing securities. (Investopedia, 2015).

Index of country

- DE = Germany
- DK = Denmark
- EL = Greece
- ES = Spain
- FI = Finland
- FL = Flanders, Belgium.
- FR = France
- HR = Croatia
- IE = Ireland
- IT = Italy
- PL = Poland
- RO = Romania
- UK = United Kingdom
- WAL = Wallonia, Belgium

N.B: Flanders and Wallonia are distinct regions due to the different energy policy effectively in place in Belgium.



2 Introduction

The WISE Power project deals with social acceptance of wind energy. It aims at enhancing local support and citizen participation in the planning and implementation process of wind power projects. The project hopes to harness existing 'passive' social acceptance¹ and encourage developers to view public engagement positively in the deployment of wind energy projects, rather than as an obstacle which can slow project development. In particular, it aims to promote "Social Acceptance Pathways" -SAPs - in order to achieve active engagement with the local community and citizen ownership, and will suggest improved pathways for more successful participation of all relevant stakeholders in the planning process.

The project has a strong focus on alternative financing – such as community and cooperative funding of wind farms. Based on the results of a survey carried out across the WISE Power consortium, this report suggests innovative financing models capable of improving social acceptance. These models involve various stakeholders, such as alternative and ethical banks, citizen cooperatives, public and other financing institutions, municipalities, and renewable energy project developers. For this reason, a Finance Advisory Board has been set up, whose members regularly interact with project partners and provide input and feedback.

What potential do innovative funding models have for social acceptance?

Innovative funding models are mechanisms which finance a wind farm project or part of it, through means other than by usual bank loans or long-term credits granted by financial institutions. Often these innovative models are set up by those who are not traditionally involved in the financial sector. As well as contributing to funding the wind farm, they are also often seen as a means to support social acceptance.

In this report, we have tried to highlight the financing models that both offer an innovative alternative to conventional bank loans and contribute best to improving social acceptance of wind farms.

¹ "According to a 2011 Eurobarometer survey, Europeans were more favorable to renewable energy than other energy sources, particularly solar (94%), wind (89%) and hydroelectric (85%). Finland (96%) and Poland (94%) emerged as the top countries most in favor of wind energy." EWEA 2012. http://www.ewea.org/policy-issues/public-acceptance/



3 Methodology

A questionnaire was drafted by Fraunhofer-ISI, APERe and REScoop. The survey aims at collecting upto-date and first-hand information about social acceptance of wind power projects in Europeans countries.

A section with questions focusing on financing models was part of this general questionnaire to investigate the perception of different stakeholders towards social acceptance of wind energy projects.

The objective of these questions was to investigate which different financing models are used, the extent to which stakeholders have experience with these models, and which innovative financing models the respondents feel could have the most positive impact on social acceptance, bankability, success of implementation, financial conditions and securing funding.

The questionnaire was sent to stakeholders of 13 European countries, divided into three categories, in function of the maturity of their local wind energy market:

- Advanced or mature : Scotland-UK, Spain, Denmark & Germany
- Growth : Ireland, France, Belgium (Flanders and Wallonia), Italy, Greece
- Emerging: Croatia, Poland, Romania, Finland

N.B.1: This financing part of the questionnaire has been answered **ONLY** by respondents having any experience with or knowledge of the funding of wind farms in their country. This can explain a low rate of answers to certain questions.

N.B.2: As many different countries were questioned, with different levels of experience in wind energy, different cultures, different legislations and different languages, there may be differences in interpretation which affect the answers to some questions.

The results of the answers to this questionnaire were cross-checked through several discussions with the Finance Advisory Board to collect more qualitative data.

The Consortium has set up a dedicated Finance Advisory Board (FAB), focussing on alternative financing of wind farms, mechanisms and/or fiscal incentives for wind energy projects. The FAB consists of banks investing in a range of sustainable energy projects, alternative and ethical finance institutions as well as cooperatives across Europe. The FAB was consulted regularly in order to provide input and expertise:

- 8th Sept 2014 : first conference call Presentations
- 7th Oct 2014 : first meeting in Madrid Presentation of questionnaire and discussions
- 29th Oct 2014 : conference call Review of the questionnaire
- 5th Nov 2014 : meeting in Brussels Discussions on alternative financing models
- 27th Jan 2015 : conference call Discussion on the results and draft report



4 Expectations of the analysis

This report investigates innovative financing models for wind farms through the analysis of the answers of a questionnaire sent to various stakeholders (project developers, citizen cooperatives, public authorities, financial institutions, environment associations and other relevant actors).

A first section of this questionnaire is dedicated to conventional forms of financing in order to quantify their use across Europe. They are classified by target countries and by type of organisation. The questionnaire considers 6 types of conventional forms of financing (and splits bank loans in two categories and distinguish 'traditional' banks from 'ethical' banks):

- Bank loans
 - from 'traditional' banks
 - o from 'ethical' banks
- Equity from project developer
- Investment funds (financed by banks and other conventional institutions)
- Issue of bonds by banks
- Issue of new shares
- Public funding, e.g. EU, national, regional, local

Thereafter, the report focuses on alternative finance used for wind projects. The questionnaire considers 5 categories of innovative forms of funding:

• Private partnership

= type of financing between a private structure and a private developer where each party commits funds. Main mechanism used to include citizen cooperatives.

• Public private partnership

= type of financing (mainly) between one or several municipalities and private developers, where each party commits funds. This structure may have various forms, as it can include citizen cooperatives, local Transmission System Operators, public institutions or even investment funds.

Crowdfunding

= participative mechanism of funding a project by raising monetary contributions from a large number of people, typically via the Internet. The contributions can be rewarded or not. The rewards can bear various forms, described below. There is no obligation of result in terms of amount collected.



Crowdfunding can be:

- Donation-based: no monetary reward
- Reward-based: supporters of the project receive some form of reward
- Lending-based: funding based on loans from private partners
- *Equity-based*: funding mechanism enabling to become a shareholder of the company or organisation developing the project (corresponds to cooperative model)
- Bonds issued by the developer or cooperative
- Investment funds (financed by citizens, cooperatives and/or the public sector)

= funding mechanism which aims to provide support and/or bridge financing for the development of wind power projects. The difference to traditional investment funds can be found in the diversity of fund providers which consists of citizens, public institutions and/or ethical alternative banks.

It is important here to give a definition of each category of funding in order to make sure that all respondents had the same understanding of financing mechanism when answering the questionnaire.

These innovative forms of financing have been previously discussed/analyzed in a qualitative way by the Financial Advisory Board (FAB) of the WISE Power project during a one day meeting in Brussels. Some conclusions already emerged on the proposed models:

- **Public private partnerships** are seen as a very specific form of funding: including many different actors of various forms. Due to the variety of structures and delivery mechanisms, this model is not easily replicable, and projects must be studied on a case-by-case basis.
- **Crowdfunding** considered as reward-based or equity-based crowdfunding is seen by many actors as part of the solution but there is still a need to search for complementary sources of funding. Cooperatives must develop innovative financing models because it is an efficient way to increase social acceptance.
- **Bonds issued** by the developer are sometimes considered as a way to instrumentalize social acceptance. Some developers tend to consider that, by giving the citizens the opportunity to purchase bonds and enjoy some financial return from a wind farm, they have solved the issue of social acceptance.
- **Investment funds** financed by citizens, cooperatives and/or the public sector are an interesting possibility. Nevertheless the possibility of reproducing this mechanism at European level must be clearly studied.

The purpose of this report is to combine qualitative and quantitative analysis. In this way, the conclusions of the report will confront the quantitative answers of the questionnaire with the preliminary qualitative conclusions from the FAB.



5 Presentation of the data

5.1 Number of filled in questionnaires by country

- ✓ 13 countries answered: Croatia, Denmark, Finland, Belgium (Flanders + Wallonia), France, Germany, Greece, Ireland, Italy, Poland, Romania, Scotland-UK, Spain.
 <u>N.B</u>: for Belgium: Wallonia and Flanders are considered as 2 separate regions.
- ✓ 466 potential respondents were contacted
- ✓ 207 questionnaires filled in → therefore 44% of the people and organisations contacted responded
- ✓ An average of 15 filled in questionnaires per country
- ✓ Advanced markets = 53 questionnaires filled in
- ✓ Growth markets = 92 questionnaires filled in
- ✓ Emerging markets = 62 questionnaires filled in







5.2 Organisation type of the 207 respondents

6 categories of organisation type:

- Administrative bodies
- Project developers
- Financial institutions
- Cooperatives
- Environmental organisations
- Other

Figure 2. Number of filled in questionnaires by organisation type



Apart from a high representation of the category "project developer", the organisations are relatively equally represented.

The category "Other" includes federations, electricity suppliers, Transmission and Distribution Network/System Operators, market regulators, etc.



Figure 3. Organisational affiliation of the 207 respondents





6 Conventional forms of funding

6.1 Types of conventional funding models used in projects

- Bank loans
 - from 'traditional' banks
 - o from 'ethical' banks
- Equity from project developer
- Investment funds (financed by banks and other conventional institutions)
- Issuing of bonds by banks
- Issuing of shares
- Public funding, e.g. EU, national, regional, local

Some respondents answered "I don't know"



Figure 4. Conventional forms of funding

The sum of answers collected is higher than the 207 questionnaires returned as the questions investigating the use of the different types of funding allowed for multiple answers.



We can also split the results by geographical area:

- Bank loans are the most common financing mechanism (24% of respondents), but calling on ethical banks differs a lot according to the country: Scotland (38,5%) and Flanders (31,3%) are familiarized with ethical banks, but Finland, Romania and Spain are not at all (0%).
- Equity from developer is used by 19% of stakeholders, and more widely used in some areas like France, Greece and Ireland (53,3% each).
- Issuing bonds and issuing shares are a less common means of financing: except a few countries like France, Germany, Greece and Ireland. Same result for share issuance and bond issue: low rate of financing.
- Public funding has been used by 9% of respondents. Results vary widely from one country to another: some countries declare not to use public funds (Croatia, Denmark) or to a little extent (Spain, Germany), but in some others, public funding is commonly used: Greece (53,3%), Wallonia (33,3%) and Scotland (30,8%). These results can be explained by the situation of national support mechanisms, which have been drastically reduced not to say completely suppressed in some countries (Spain).

6.2 Numbers of windfarms financed by conventional forms of funding in the last three years (2012 – 2014)

More than 435 wind farms were (at least partly) financed by conventional forms of funding in Europe.

With 387 answers, the average is 1,12 wind farm per answer. The reality is probably higher than this figure, as 8 respondents answered "all of them".



6.3 Analysis by target countries





The main forms of conventional funding are bank loans, equity from the developers and investment funds.

- In mature markets results suggest that about 40% of funding is covered by traditional bank loans; in growth and emerging markets it is about 30%. In mature and in growth markets around 20% of funding is covered by ethical banks. In emerging markets this is only around 10%.
- In growth markets, equity by the developer is mentioned in close to half of the investments. For mature markets and emerging markets the figure is much lower: at around 30 and 25% respectively.
- Investment funds are mentioned at around 20% in all markets.
- Bonds issued by banks and shares are used less particularly in emerging markets. Public funding is mentioned by 20% of respondents from growth markets while only 10% in mature and in emerging markets.

It is hard to assess to what extent the availability of ethical bank loans is the result of a general interest for alternative, ethical solutions in society, or if it emerges from the demand from the growing sector.



6.4 Analysis by organisation





Project developers, representing 30% of the respondents of the questionnaires in general and 50% of the respondents to the financial questions, seem to complement equity with bank loans, mostly from traditional banks. To a lesser extent they use funding from investment funds. These figures seem to be confirmed by the answers from the financial institutions themselves and from the organisations in the "Other" group. The distribution for the administrative bodies and the environmental organisations is relatively even. Cooperatives equally complement the equity they gather by bank loans but they rather work with ethical banks. They also seem to be more dependent on public funding. Bonds are a form of funding that seems hardly used in wind energy projects. They are mostly mentioned by investors themselves, be it project developers or cooperatives.



7 Innovative forms of funding

7.1 Types of innovative forms of funding used in projects

- Private partnership
- Public private partnership
- Crowdfunding
- Bonds issued by the developer or cooperative
- Investment funds (financed by citizens, cooperatives and/or the public sector)



Figure 7. Innovative forms of funding

The relatively high number of partnerships seems to show that there is some requirement for this kind of structure. This shows that even big developers tend to seek partnerships to achieve their projects.

It must be underlined that one single project can include several funding models, often combining conventional and innovative mechanisms : one wind farm can be financed by a private developer, a citizen cooperative and a municipality.

For example, a single project could be owned by several private developers, a municipality and a citizen cooperative. Furthermore, the share owned by the private developers could be partly financed in different ways (equity, bond issue) and the share of the cooperative partly financed by donation-based



crowdfunding to kick-start the project². This is particularly the case in Wallonia (Belgium), where local regulation encourages this type of structuring in the ownership of wind farms with a requested opening for direct participation of citizens and municipalities at up to 24,99% each.

Figure 8. One single project can include several funding models, even combining conventional and innovative mechanisms



In some cases developers set up so-called "cooperatives" (or "fake cooperatives"), sometimes extremely closely linked to single projects. Citizens buy shares in these cooperatives which, in turn, lend the collected capital to the developer as subordinated loans.

In such schemes, citizens are just investors, who not only are not given a single share of ownership of the wind turbines, but have neither a single word to say concerning the development of the projects.

² For example: <u>Kaštela Energy Cooperative</u> : Creation of an organisation that would install solar photovoltaic systems at a fair price for locals in Croatia. The financing structure is a combination of donations gathered through crowdfunding and an UNDP capital grant. A similar gathering of funds has been used by <u>Condroz</u> <u>Energies Citoyennes</u> (Walloon cooperative active in hydropower).



This model is mainly meant to increase the developer's equity and to enable him to keep a hold on the share that otherwise would go into the hands of citizen cooperatives.

7.2 Number of windfarms financed by innovative forms of funding in the last three years (2012 – 2014)

More than 114 wind farms were financed by innovative forms of funding in Europe. With 153 answers, the average is 0,75 wind farms per answer. This figure can be explained by the fact that innovative forms of funding are often combined with conventional forms.

The results from the survey do not give any information on the amounts or proportions in which projects are financed by these models.

7.3 Analysis by target countries





Roughly one third of respondents relied on private partnerships to help finance projects. The preference for conventional financing through traditional bank loans in the mature markets is also evident here. Partnerships of any form are a lot less usual there than in the growth and emerging markets. Public private partnerships are less popular, particularly in mature and



certainly in emerging markets. Crowd funding is more common in growth markets. However in mature markets, crowd funding is still applied more often than public private partnership, which is not the case for the growth markets. Bonds issued by cooperatives and investment funds are recognized in growth and emerging markets at somewhere between 5 and 10% of the projects but in mature markets they are only marginal. In around 10% of the projects other innovative forms of financing have been used.

7.4 Analysis by organisation



Figure 10. Innovative forms of funding by organisation

Private partnerships are clearly the most frequently used innovative form of funding. Public private partnerships are less popular. Cooperation with public partners seems to be more usual for cooperatives. Crowdfunding and investment funds as ways of financing are particularly well used by cooperatives. Financial institutions and cooperatives are acquainted with innovative forms of financing, while they seem to remain relatively unknown to project developers, public authorities, environmental organisations and the other respondents.



8 Experience with innovative financing models

8.1 Effect on financial conditions, securing funding and social acceptance

8.1.1 Effect on financial conditions

 \rightarrow Partnership and public private partnership appear to have the most positive impact.

→ Surprisingly, crowdfunding comes in 3^{rd} position, while, in most cases, it is a non-rewarded funding mechanism, and therefore, theoretically the cheapest source of funding.













wisepower-project.eu

8.1.2 Relevance for securing funding

 \rightarrow Partnership and public private partnership appear to have the most positive impact compared to other innovative funding models.

→ Crowdfunding comes in 3^{rd} position, but its global score includes some negative answers, which seem to reflect the fact that this model usually only partially meets the funding needs.













wisepower-project.eu

8.1.3 Effect on social acceptance

→ Globally, private partnership and public private partnership are experienced to have a positive impact on social acceptance. Nevertheless, crowdfunding shows the highest number of positive answers.

 \rightarrow According to the figures, bond issues contribute very little to increase social acceptance, which may be explained by the fact that subscribers have no access to ownership.













8.2 Effect on financial conditions, securing funding and social acceptance as experienced by type of organisation

Respondents representing the different stakeholder groups shared their experiences with regard to the effect of using innovative funding models on the financial conditions they were able to negotiate, the measure to which they were able to secure their financers and the impact on social acceptance.

Unfortunately, the results of the questionnaire did not bring much information on environmental organisations. It may suggest that they have little experience with innovative financing models.

8.2.1 Effect on financial conditions by type of organisation



Figure 11. On *financial conditions* by type of organisation



The type of stakeholder that experiences the most positive impact financing conditions is administrative bodies with an average of 4,1 out of 5. They are closely followed by financial institutions (average 4) and cooperatives.

The maximum scores given by stakeholders vary from one category to another: unremarkably, the highest score (5) was given by financial institutions to PPP as the participation of a municipality in the structure will have a positive impact on the interest rate; 5 has been given by administrative bodies to bond issues because these are more secure and transparent in terms of interest rate, maturity date and guarantees. The point of view of environmental organisations differs because, as non-state bodies, they have more difficult access to conventional loans, and will therefore more easily collect money by enhancing their network and setting up a crowdfunding campaign.



8.2.2 Effect on securing funding by type of organisation





In terms of securing funding, the most positive impact on innovative financing models was experienced by cooperatives with an average of 3,9 out of 5, with the highest score for investment funds. This can be explained by the possibility of a cooperative calling upon an investment fund to secure its funding. Administrative bodies and project developers are very close to this average (3,9 and 3,8 respectively).



8.2.3 Effect on social acceptance by type of organisation





Globally, crowdfunding is credited with the highest score by all categories of stakeholders in terms of social acceptance (average 4,3). PPP comes second, but the results are very close to one another.

The score of crowdfunding could be explained by the observation that the more stakeholders there are in a financing structure, the more positive the impact on social acceptance of the project. A standard PP does not by definition involve citizens. This could also illustrate why PPPs score better than private partnerships.



8.3 Effect on financial conditions, securing funding and social acceptance as experienced by stakeholders by country of origin:

Respondents from the different target countries shared their experiences with regard to the effect of using innovative funding models on the financial conditions they were able to negotiate, the measure to which they were able to secure their financers and the impact on social acceptance.

Unfortunately, the questionnaire didn't gather much information on Denmark, Ireland, Poland and Spain.

8.3.1 Effect on financial conditions by country of origin



Figure 14. On *financial conditions* by country of origin



Romania shows the most positive impact of innovative financing models on financing conditions (average 4,8). Italy, Belgium and Croatia also experience a positive impact. On the opposite, Germany, as a mature market country, has the least positive experience (average 2,6).

8.3.2 Effect on securing funding by country of origin





In terms of securing funding, Romania (average 4,8), Italy and Finland show a very positive effect on securing funding with innovative financing models. In Scotland, on the contrary the effect is only minor (average 3,2).



8.3.3 Effect on social acceptance by country of origin





Romania expects an overall positive effect (average 4,8) from innovative financing models on social acceptance, with Belgium and Italy following. Respondents with experience in innovative financing models in the mature market in Scotland present a mixed picture (average 2,8) with a mildly positive effect of crowdfunding and investment funds while partnerships, either private or private-public, have a rather negative effect.



9 Perceived impact of innovative financing models

9.1 Perceived effect on bankability, successful implementation and social acceptance

Respondents shared their experiences on the effect of using the different types of innovative funding models on the bankability, the successful implementation and on social acceptance of wind projects

9.1.1 Effect on bankability

→ Private partnership are perceived as having the best positive impact on bankability of projects. Probably because of the know-how and expertise developed by private partners.

 \rightarrow Globally, PPP and investment funds obtain a similar score, but the effect of investment funds on bankability will depend on which type of institution that will constitute the fund.











WISEPower

wisepower-project.eu

9.1.2 Effect on support for a successful implementation

→ Globally, private partnership and public private partnership are perceived to have the most positive impact on support for a successful implementation.

 \rightarrow Crowdfunding and bond issue are perceived to have a rather neutral effect on the implementation of wind farms.













wisepower-project.eu

9.1.3 On social acceptance

 \rightarrow Figures reflect that crowdfunding is expected to have the most positive impact on social acceptance.

→ Private partnership and investment fund have similar results. The score of investment fund could be explained if citizen cooperatives or ethical banks are thought to be part of the fund.













- 9.2 Perceived effect on bankability, successful implementation and social acceptance by type of organisation
- 9.2.1 Effect on bankability by type of organisation





In general, respondents seem to be quite positive about the effect of innovative funding on bankability. Environmental organisations expect good results from private partnerships but a negative effect of crowdfunding. Not entirely unexpected, banks for whom conventional funding is their core business only see marginal benefits in innovative funding models. Along with administrative bodies they are rather positive about public private partnerships.



9.2.2 Effect on support for a successful implementation by type of organisation



Figure 18. On support for a successful implementation by type of organisation

Administrative bodies perceive innovative financing models as having a positive impact on supporting the implementation of projects (average 3,9), followed by cooperatives and environmental organisations. Here as well, financial institutions appear to be more reluctant towards innovative funding models.

The lowest score is given to PPP structures by environmental organisations, possibly because public institutions lack the experienced human resource necessary to facilitate the implementation of wind projects.



9.2.3 Effect on social acceptance by type of organisation





Unsurprisingly, cooperatives have the highest expectations for innovative financing models (average 3,9). They perceive such models as having a high positive impact on social acceptance. They are closely followed by administrative bodies (3,9) and project developers (3,8). Environmental organisations expect no effect of either private or public private partnerships, but expect a positive impact from crowdfunding.



9.3 Perceived effect on bankability, successful implementation and social acceptance by country of origin

9.3.1 Effect on bankability by country of origin





In the emerging market of Croatia (average 4,3) and the mature market of Scotland, respondents expect a positive impact of innovative financing models on bankability, unlike France (growth market) where a rather negative impact is expected (average 2,8). The other countries perceive a rather positive impact.



9.3.2 Effect on support for a successful implementation by country of origin



Figure 21. On the support for a successful implementation by country of origin

Concerning the perceived potential impact of innovative financing models supporting the implementation of a project : Croatia (average 4,1) and Scotland (4) express the most positive expectations. Generally speaking, PP and PPP get the best scores, except for PP in a few countries like Denmark and Finland and for PPP in France.

On average, PPP are credited with a slightly higher score than PP, which seem to demonstrate that the participation of a municipality or public institution in the structure facilitates the implementation of the wind farm.



9.3.3 Effect on social acceptance by country of origin



Figure 22. On social acceptance by country of origin

Results vary a lot between countries. Crowdfunding seems to be seen as having a positive impact on social acceptance in Croatia, Ireland and Scotland. However, the same mechanism was viewed much less positively in countries like Finland and Denmark.

Investment funds enjoy particularly good scores in Germany and Wallonia. This may be explained by different reasons: on the one hand, Germany has an experience with investment funds specializing in Renewable Energies (some only in wind farms), and, on the other hand, Wallonia has created the F.E.C. (see point 11), which cherishes big hopes in terms of financing wind farm projects.



10 Classification of the stakeholders expected to be the most supportive towards alternative forms of funding

Stakeholders expected to be the most supportive towards innovative forms of funding:

- 1. Citizen associations
- 2. Local public
- 3. Media
- 4. Local political level
- 5. Regional political level
- 6. Environmental associations
- 7. Project developer
- 8. Regional administration
- 9. Permitting authority
- 10. Conventional financial institution





Further points:

- Regional administration: not interested in this issue (4 answers) and don't know (31)
- Permitting authority: not interested in this issue (60)
- Conventional financial institution: critical towards innovative forms (35) and don't know (45)
- Project developer: don't know (36)



Not surprisingly, respondents expect conventional financial institutions to be the least supportive, and media to come in 3rd position.

Since project developers mostly rely on conventional financing by complementing equity with traditional bank loans and when going for a more innovative financing for projects tend to have a preference for private and public private partnerships, it is not very surprising that responses to the financial questions suggest that project developers would remain relatively critical towards innovative forms of financing. This seems to contradict the rather positive results respondents indicate in the questions on the impact of innovative financing on social acceptance, with project developers even giving relatively high scores, whether they have experience with innovative financing or not. Perceptions can be deceptive.



Figure 24. Focus on project developers by target countries



11 What financing mechanisms to best contribute to enhancing social acceptance?

The relevance of focusing on alternative financing models lies not only in its financial aspects, but mainly in its social dimension.

Though at different levels, most of the stakeholders implied in a wind farm have perceived that the social dimension of wind energy projects has become a key factor for implementation of new wind farms.

However, defining one single innovative financing mechanism that, at the same time, contributes to enhancing social acceptance of wind energy, improves bankability of projects, insures successful implementation of wind farms and offers attractive financial conditions is a complex exercise.

Indeed, studying alternative financing mechanisms must integrate cultural, economic and institutional aspects. The variety of situations in each country and the differing expectations from one category of stakeholders to another leads us to conclude that the solution will originate from a mix of possibilities, existing and not existing. It is also important to integrate the advantages of each model and to consider which aspects can be reproduced elsewhere.

The data collected seems to show that the more stakeholders there are in the financing structure, the more positive the impact on social acceptance of the project. Lack of transparency in financing mechanisms will translate to reluctance from citizens towards the project. Transparency is not directly linked to the complexity of the project, and to the number of intermediate juridical structures you have between the cooperative collecting the money invested by the citizen and the entity purchasing the wind turbine, but before all to the information given to the citizens about how the money they invest will be allocated to the final project.

Combining the figures collected in the survey with the qualitative information obtained from the stakeholders and the members of the Financial Advisory Board, we came to the conclusion that the model that would best meet the stakeholders' expectations and contribute to improve social acceptance would be an adjustable, flexible and multi-faceted financing mechanism.



What mechanisms?

11.1 Private partnerships

Private partnerships are widely present and concentrate many of the best scores, among others, in terms of securing good financial conditions and relevance for securing funding. Private partnerships are clearly the most frequently used innovative form of structuring a wind farm, as they are said to be used by 34% of respondents (however, we should not underestimate the fact that a large number of partnerships are concluded nowadays exclusively between private developers, as the plots that make up an interesting windy site are often spread between different developers).

The most frequent structures of private partnerships are as follows (list not exhaustive): [see also figure 8]:

- Private developer(s) + citizen cooperative
- Private developer(s) + citizen cooperative + municipality(-ies)
- Private developer(s) + operating company (overseeing cooperative & municipality)
- Private developer(s) + citizen cooperative + TSO or DSO
- Private developer(s) + citizen cooperative + fund with permanent stake (constituted with private institutions and/or public institutions and/or cooperatives)

Social acceptance:

When a citizen cooperative is included in the scheme, the survey shows that private partnerships apparently offer a good compromise between successful implementation, bankability of the project and probably social acceptance.

But the analysis is complex, because one single project can include several partners, and therefore different funding models. One developer may be granted a bank loan from an ethical bank and issue bonds, while an institutional fund offers a bridge-financing to a cooperative which might raise additional funding through a crowdfunding operation.

Moreover, although perceptions are slowly changing, we still observe a lot of reluctance from private developers towards cooperatives. These are generally regarded as groups of citizens with little expertise in project development, who delay the development process and bring little added-value to the project.

It is not clear enough yet to private developers to what extent involving the local community is fundamental to social acceptance, and whether it is essential to minimise risks of juridical appeals and maximise the chances of having projects accepted.

Bankability:

Although private partnerships are considered rather positively by financial institutions [see figure 11], the presence of a cooperative in the project structure is key for getting a long-term loan from an ethical bank.



Risks:

The risk level in operating a wind farm is relatively low. Indeed, wind potential is assessed with accurate softwares, incomes are relatively stable (forward sale of electricity and green certificates or feed-in tariff), and the availability contract offers a full-guarantee for 12 years generally. However, for citizens investing their savings in a young cooperative, the risk is higher than investing in an institutional fund, made up of large financial institutions. We have very little experience in cooperative bankruptcy, though. Moreover, governance of citizen cooperatives is, in most cases, less risky, more transparent and more democratic than in traditional banks (see US subprimes crisis in 2008).

11.2 Crowdfunding

Crowdfunding is a rather new financing mechanism. We assume some of the respondents have had little experience so far with this form of fund raising. Moreover, crowdfunding exists in different forms: it can be rewarded (with dividends, shares or interest rates) but is most commonly used without rewards as a way of raising funds (donation-based crowdfunding). The data collected therefore probably integrates perceptions of both approaches.

Social acceptance:

Crowdfunding is perceived as having a potential positive impact on social acceptance (see 9.1.3.), probably because it is expected to involve a large number of people. Social networks and modern means of communication play an important role with this regard. Indeed, the information relative to a fund raising campaign can rapidly be widespread to different communities.

It is important to underline the fact that, in most cases (donation-based), crowdfunding is the only mechanism for which citizens invest freely, i.e. with no reward in return. This demonstrates that, at least as far as renewable energy projects are concerned, money is not the main motivation of investment. The environmental, social and ethical characteristics of the investment are probably a higher priority than the financial return it may offer. This approach certainly has an impact on the way crowdfunding is perceived towards social acceptance.

Bankability:

Experience shows that many crowdfunded operations end up with small amounts of money collected. It should not be assumed that such mechanisms are not efficient in project financing. Limited responses can be explained by the fact that crowdfunding is still relatively unfamiliar and has to be integrated in people's mind as an easy, user-friendly and important way of raising funds.

Therefore, it is recommended to use this mechanism in combination with other financing mechanisms, like conventional loans from ethical banks and/or investment funds as described below.

The results of the survey seem to show that crowdfunding will foster a positive perception of the wind energy projects which it helps to finance.



Risks:

Not relevant for investors as most crowdfunding operations are donation-based. The main risk lies on the fund-raiser's side, as he is exposed to the possibility of not reaching the targeted amount of money.

Crowdfunding with public authorities

Experience shows that local public authorities can bring a lot of credibility to a project. When they invest in a wind farm, municipalities increase trust in the project and mobilize citizen support.

Many citizens, before buying a share of a cooperative, want to make sure that their municipality will play an active role in the project.

This potential value of local authorities to lend their credibility, social approach, convincing potential and distribution capacity could be enhanced through a crowdfunding platform. Such a combination could probably boost the degree of citizen participation in projects and thereby increase social acceptance.

11.3 Underwriter fund

When a crowdfunding operation is set up by a cooperative or a citizen association, the publicity made about the operation is key for a successful operation, and for the citizens' ability to raise the targeted amount of money. If the communication network around the crowdfunding transaction is insufficient, the operation fails to reach its objective.

An **underwriter fund** offers the guarantee of reaching the targeted amount of money by providing with supplementary funding if the objective of the fund raising campaign is not reached. Thanks to such fund, the fund raiser (citizen cooperative or private developer) can be assured of a successful financing operation.

The underwriter fund can be constituted in different forms:

- by public institutions
- by a cash-pool from cash-rich cooperatives (excess of treasury)

11.3.1 Underwriter fund with public institutions

In Wallonia (Belgium), an institutional fund called F.E.C., created on the initiative of a few cooperatives, was set up. The fund works quite similarly to an underwriter fund, with the guarantee of public regional institutions.

The idea of creating a citizen fund in Wallonia emerged from the necessity for many cooperatives willing to buy a share of a wind farm (usually one wind turbine, rarely more) to have the necessary funds when time has come to make the first down payments when ordering the wind turbine, or when

paying for grid connection. On average, banks require from their customers to have 20% to 25% equity, i.e. about 800,000 € for a 2.5 MW machine, before they grant a long-term financing. As it usually takes years for a new cooperative to attract such an amount of money, any mechanism enabling cooperatives to temporarily borrow the missing amount of money is likely to be very useful.

Social acceptance:

The particularity of the F.E.C. (Fonds Eolien Citoyen³) is that it is constituted under the form of a citizen cooperative. The first funds to be used in a wind energy project are those invested by the citizens. Each citizen is entitled to hold a share of the cooperative ($250 \in$), and to contribute to financing wind energy projects where bridge financing is needed.

The fact that citizen financing comes first, before a possible complementary funding from institutions, increases the feeling among citizens of taking ownership of the projects, which most probably has a positive impact on social acceptance.

Even though, the regional institutions, when negotiating the F.E.C., imposed to have a 25% permanent stake in the projects. This stake is meant to ensure the profitability of the structure, guarantee their ability to distribute a dividend, and, by so doing, to maintain the attractiveness of the mechanism.

Bankability:

In case "citizen funding" is not sufficient, five regional institutions offer their back-up guarantee. Therefore, if the amount of money invested by citizens is not large enough to insure the bankability of the project, the regional institutions deliver supplementary financing to ensure the completion of the funding phase without delaying the project.

Risks:

An underwriter fund like the F.E.C. offers an efficient response to the main objection commonly made towards investments in cooperatives: the presence of public institutions in the fund reduces the risks of bankruptcy by setting up a control committee that would ensure the quality of financed projects.

As far as revenues are concerned, we consider that the funds temporarily lent by the underwriter fund should be lent with interest rate, in order to make such financial structuring profitable, to attract a broader basis of investors, and make sure that both cooperatives and institutions will be able to distribute dividends.

The level of interest rate is a delicate question, because the higher the interests, the higher the dividends the fund will distribute, but the more expensive the loans cooperatives will have to pay back to the fund. So, fixing the interest rate charged by the fund must be the result of a balance between

³ <u>http://www.apere.org/adt/sites/default/files/files/doc/PRESENTATION_4_FEC.pdf</u>



profitability, attractiveness of potential investors, and financial costs for cooperatives buying a wind turbine.

When setting up such a fund, the stakeholders of the fund are likely to claim for a permanent minority stake in the project in order to guarantee themselves permanent revenues. The question of a permanent stake of the fund in the project is left open: on the one hand, enabling the institutions / banks to hold a permanent stake in the project (e.g.: 25% of the wind turbines financed) increases the attractiveness of an investment in the guarantee fund. Conversely, the cooperative which calls upon the fund on a temporary basis might be tempted to preserve their independence and hold 100% of the project, instead of having to share the profits of the project with an institutional fund having a permanent minority stake in it.

11.3.2 Underwriter fund with cooperatives

Instead of borrowing money from institutions at a fixed rate, it would make more sense to borrow from cash-rich entities. The idea of an underwriter fund set up by cooperatives through a vehicle acting as a cash-pool, i.e. that would distribute excessive treasury from cash-rich coops to cooperatives in need for cash, is a concept that would combine many of the positive aspects of the different formulas: gathered together, cooperatives would be financially stronger to negotiate with private developers larger shares of the wind farms. Social acceptance of wind energy could be reinforced as cooperatives would be more present in most of the projects, which would lead to a higher involvement of citizens in the development process of wind farms. Cooperatives would therefore be considered as a key player in wind energy development, and this solidarity engagement between cooperatives would give more comfort to banks.

Social acceptance:

Creating a fund made up of different cooperatives from various geographical areas is likely to weaken the feeling of ownership or connection towards the concerned projects. The connection is key for building or reinforcing social acceptance as it is at the root of citizen support to local projects.

Therefore proposing targeted accounts to finance specific projects within the same fund could be an efficient response. The fund could also suggest different formulas in terms of risk distribution (project diversification), and terms (short- / medium- / long-term).

Such a concept would enable citizens to choose the project in which they want to invest.

Targeted accounts could also offer a flexible rates of return because of the higher risk level due to the absence of project diversification.

Bankability

Various criteria must be defined and analyzed to determine if the fund will finance a certain project: wind potential of the selected site, forecast revenues, due diligence, financial capacity of the cooperative, quality of governance, etc.



In Germany, the DGRV (Deutscher Genossenschafts- und Raiffeisenverband e.V.), which is the cooperative federation for German cooperatives, has developed their own scoring method enabling a Committee to assess the quality of projects. This method enables to have full transparency on the seriousness of the cooperative.

Have similar mechanisms been experienced in Europe?

Portugal

An innovative international joint venture of cooperatives was set up to finance projects in Portugal. The objective of this innovative investment scheme is to finance RES (Renewable Energy Source) projects by rapidly mobilizing funds from four different existing coops.

Such scheme requires no need for start-up capital, nor for financial institutions.

Boa Energia⁴ is a group of citizen cooperatives in Portugal that developed 4 projects which needed an investor before the deadline for the feed-in tariff application. Boa Energia offered the opportunity to different REScoops in Europe to invest in the projects. The REScoops that were interested in the projects decided amongst each other that it would be against their principles to be foreign investors without giving Portuguese citizens a chance to invest as well. Boa Energia agreed to set up a local REScoop, Coopernicus.

The joint venture agreed to buy the projects and become owner of the equipments. Coopernicus would get a 4% share in the joint venture with the possibility to buy back up to 100% shares of the joint venture, when their member base, and with it its social capital, would grow and end up becoming an autonomous REScoop.

France

*Energie Partagée Investissement*⁵ is the first innovative financing tool in France for citizen investment in renewable energy and energy efficiency. This tool enables project developers or cooperatives to gather the necessary funds for starting a project and keeping a hold on. Such a structure, which enables inter-cooperative financing through temporary loans, is rather similar to a cash-pooling system between cooperatives.

^{4: &}lt;u>http://rescoop.eu/sites/default/files/project-resources/handbook_on_citizens_res_investment_schemes_final.pdf</u>

⁵ <u>http://energie-partagee.org/le-fonds-citoyen/principes-dintervention/</u>



One single European mechanism?

Through the different innovative financing mechanisms we have analyzed, some of which have already been utilized, a certain number of common characteristics to make a successful financing model can be highlighted, not only in terms of social acceptance, but also in terms of rapid implementation and bankability of the projects:

- underwriter fund :
 - with public institutions : increases trust and credibility
 - with cooperatives : can reach large number of citizens, and can mobilize funds rapidly through cash-pooling system
- Well-balanced level of interest rates enabling borrowing cooperatives to enjoy competitive financial conditions, and enabling the fund to remain attractive through dividend distribute
- Quality of projects assessed by expert committee in order to concentrate financing on quality projects and ensure rapid implementation of projects.

As challenges in terms of social acceptance are similar from one country to another, it would make sense to study the relevance of implementing such a financing mechanism at a European level. Setting up an underwriter fund that would invest in wind farms across national borders in all European countries and help citizen cooperatives to share wind turbine ownership with private developers could combine many advantages:

- more comfortable position of citizen cooperatives to negotiate a share of wind farms with private developers;
- sufficient funding and sufficient expertise to develop 100% citizen projects, and increase social acceptance of wind energy;
- market liquidity thanks to the number of investors and the size of the fund, enabling flexibility
 of sale and purchase transactions (shares held by citizens could be sold and purchased
 rapidly);
- high diversification of investment formulas thanks to the high number of projects financed;
- competitive financial conditions : stable rate of return or dividends;
- low risk of bankruptcy
- high bankability of projects : quality of projects validated by a committee of engagements
- successful implementation of projects.