

ÉTUDE DES DIFFÉRENTS ACTEURS DU FINANCEMENT PARTICIPATIF D'ÉNR EN FRANCE

SÉMINAIRE FINANCEMENT DE LA TRANSITION ÉNERGÉTIQUE DE LA CHAIRE
ÉNERGIE ET PROSPÉRITÉ

18 mai 2021

CLÉMENCE BOURCET

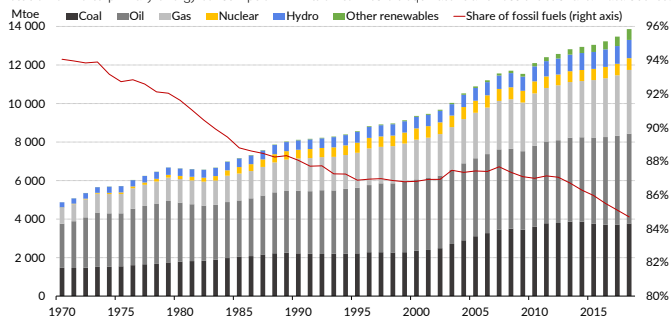


■ RE deployment as a mitigation solution

- Recognition of human influence on climate and ways to address this
 - ▶ How to reduce GHG emissions to limit the physical risks associated with climate change?
 - ▶ What can be done to decarbonize the energy sector?

- Low-carbon RE sources can meet various energy needs (power, heating and cooling, transport)

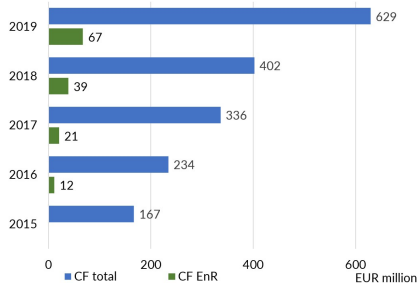
Figure: Evolution of world primary energy consumption in million tonnes oil equivalent and fossil fuel share. Data source: BP (2019).



■ RE crowdfunding in France

- Regulation of the sector since 2014 and a favorable environment since then
- Strong growth of the sector

Figure: Amounts collected *via* crowdfunding platforms, all sectors combined and for RE projects, in France. Data sources: GreenUnivers and FPF (2017, 2018, 2019, 2020), Mazars and FPF (2020).



- Scarce and relatively new literature on crowdfunding, mostly considered as an entrepreneurial finance tool

Les acteurs du CF d'EnR en France

■ Context and literature gap

- In France, RE crowdfunding has experienced a strong growth
- No author had specifically looked at the different actors involved in the RE crowdfunding sector in France: platforms, project promoters and investors
- Building on the previous exploratory case study to give a broader overview of platforms and their customer segments
- Crowdfunding cannot be considered as a pure entrepreneurial finance tool

■ Research question and methodology

■ Research question

- ▶ What are the characteristics of the different actors involved in the RE crowdfunding sector in France?

■ Exploratory descriptive analysis of 2 sources of data

- ▶ Proprietary questionnaire sent (May to September 2020) to French platforms that have historically organized RE campaigns with the support of FPF
 - 4 answers received: Enerfip, Lendopolis, Lendosphere, Lumo
 - Data regarding: campaigns and projects, platforms, projects promoters, and investors

	2014	2015	2016	2017	2018	2019
Campaigns	2	25	52	73	112	211
MEUR collected	0.08	2.9	11.9	18.3	28.7	56.9
Share of the sector			99%	89%	74%	85%

- ▶ Survey data from investors regarding profile and motivations collected (between February and March 2019, 2,154 respondents) by YouGov France for FPF and the MTES

■ Platforms

- Free access for contributors but project promoters pay a fee between 3 and 7% of the funds collected
- Diversification of funding instruments offered
- Specific characteristics of platforms regarding instruments, energy financed, and project promoters' profile
- 3 out of 4 have links with the banking sector
- Main risk: regulatory risk

■ Funding instruments and projects (2014-2019)

■ Funding instruments

	Bonds	Minibons	Lending	Shares
Share in total (av.)	64 to 94% (84%)	2 to 27% (10%)	0 to 8% (5%)	0 to 5% (2%)
Av. duration in years	3 to 6 (up to 13 before 2018)	3 to 6 (up to 11 before 2018)	1 to 4	
Av. return	3.6 to 5.5%	3.6 to 6%	4.3 to 6.5%	

■ Projects funded

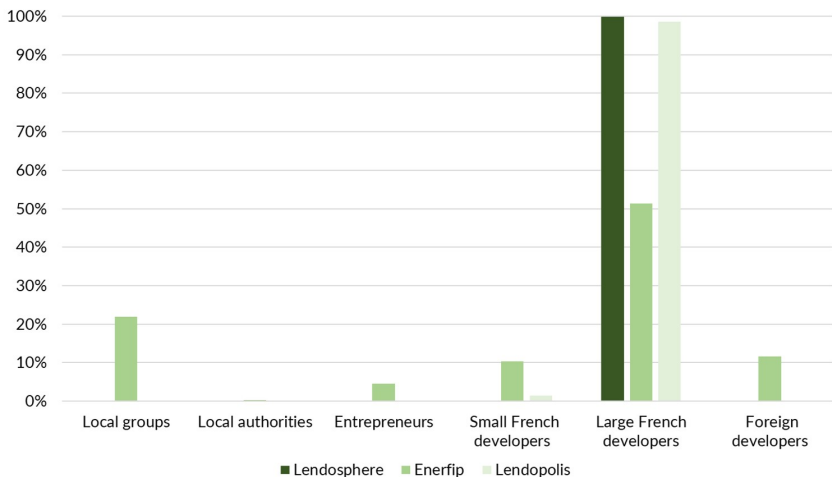
	Solar	Wind	Biomass	Hydro	Other RE-related
Share in total (av.)	50 to 98% (69%)	2 to 41% (25%)	0 to 6% (3%)	0 to 0.4% (0%)	0.3 to 3% (2%)

■ Project promoters

- Main motivations: (i) local awareness and acceptance, (ii) bonus on the purchasing price of electricity, (iii) raise funds
- Profile

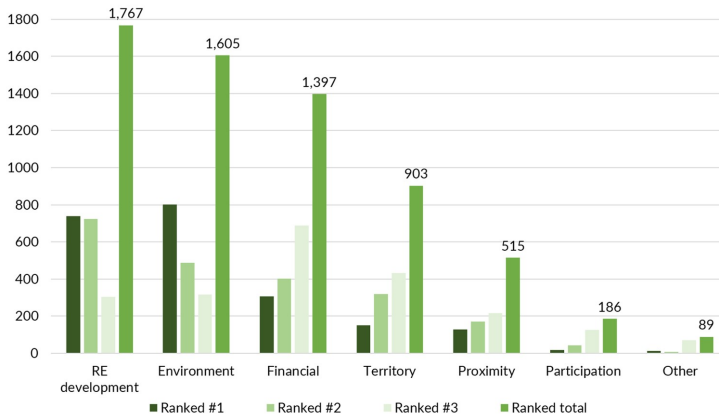
	Small French developers	Large French developers	Foreign developers	Local groups or authorities	Entrepreneurs
Share in total (av.)	0 to 10% (4%)	51 to 99.8% (83%)	0 to 12% (4%)	0.2 to 4% (2%)	0 to 5% (1.5%)

■ Types of project promoters based on amounts collected by each platform



■ Contributors

- Profile: About 3/4 are men, about 80% are between 25 and 64 years old
- About 60% have used another instruments to invest in RE sources
- Motivations



Décision d'investissement en CF d'EnR

■ Context and literature gap

- Interesting case study of France to investigate RE crowdfunding
- Little knowledge of the decision-making process of crowdfunding investment based on survey data (mostly past campaigns data)
- No paper has used survey data to investigate the decision-making process of RE crowdfunding investors
- Extensive literature on the determinants of pro-environmental behaviors: (i) external variables (e.g., social norms, incentives), (ii) individual socio-economic variables (e.g., gender, age, income), and (iii) individual psychological variables (e.g., attitudes, beliefs) (Li et al., 2019)

■ Research question and methodology

- Research question
 - ▶ What is the influence of opinion variables on the decision to crowdfund RE projects?
- Empirical analysis of survey data collected (between February and March 2019) by YouGov France for FPF and the MTES
 - ▶ Sample of 2,968 individuals, post-stratification weighting factors to improve representativeness regarding the French population
 - ▶ Probit analysis dependent variable: dummy variable for investment in RE sources using crowdfunding
 - ▶ Independent variables: binary opinion variables regarding the RE sector, RE crowdfunding risk, other investments in RE sources, local acceptance of wind and solar energies, and socio-economic variables (age, gender, education, socio-professional category, region)

■ Overview of the results

Independent variable	(1) Probit (MLE)	(2) Probit (MLE)	(3) Probit (MLE)	(4) Probit (MLE)	(5) Probit (MLE)	(6) Probit (MLE)	(7) LPM (OLS)
<i>RE_Opinion</i>	0.44*** (0.15)	0.29* (0.16)	0.08 (0.17)	0.30° (0.20)	0.36* (0.19)	0.23* (0.14)	0.06° (0.04)
<i>RE_Transparency</i>	0.58*** (0.09)	0.51*** (0.09)	0.49*** (0.09)	0.51*** (0.11)	0.56*** (0.10)	0.54*** (0.08)	0.14*** (0.03)
<i>RE_Profitability</i>	-0.16** (0.08)	-0.2** (0.09)	-0.23*** (0.09)	-0.13 (0.10)	-0.15 (0.10)	-0.07 (0.08)	-0.03 (0.02)
<i>RE_Inevitability</i>	0.42*** (0.12)	0.42*** (0.14)	0.32** (0.14)	0.14 (0.17)	0.09 (0.17)	0.19* (0.11)	0.04 (0.04)
<i>RE_Regulation</i>	-0.05 (0.09)	-0.07 (0.09)	-0.08 (0.09)	-0.05 (0.11)	-0.05 (0.11)	-0.06 (0.08)	-0.02 (0.02)
<i>RE_Durability</i>	0.54*** (0.09)	0.58*** (0.10)	0.56*** (0.10)	0.52*** (0.12)	0.52*** (0.12)	0.31*** (0.08)	0.14*** (0.03)
<i>RE_Impact</i>	0.08 (0.09)	0.05 (0.09)	0.02 (0.10)	-0.06 (0.11)	-0.06 (0.11)	0.20** (0.08)	-0.01 (0.03)
<i>RECF_Risk</i>	-0.38*** (0.10)	-0.46*** (0.10)	-0.4*** (0.10)	-0.38*** (0.11)	-0.38*** (0.12)	-0.37*** (0.08)	-0.10*** (0.03)
Other RE instruments	-	Yes	Yes	Yes	Yes	Yes	Yes
Wind and solar acceptance	-	-	Yes	Yes	Yes	Yes	Yes
Socio-demographic variables	-	-	-	Yes	Yes	Yes	Yes
Controls on region	-	-	-	-	Yes	Yes	Yes
Equal weights	-	-	-	-	-	Yes	-
Log likelihood	-1,775	-1,576	-1,517	-1,252	-1,201	-909	-
Pseudo R-squared	0.13	0.22	0.25	0.38	0.41	0.44	-
Pct. corr. pred.	68.34	73.35	75.60	81.49	81.72	80.50	81.77
Brier score	0.19	0.16	0.15	0.10	0.10	0.10	-
AUC score	0.73	0.82	0.83	0.91	0.91	0.91	-

■ Discussion

■ Main results

- ▶ Opinion on transparency of investment opportunities offered in the RE sector (+)
- ▶ Opinion on durability of the RE sector (+)
- ▶ Opinion on risk (-)
- ▶ Other RE investments (+)

■ Coherence of existing public policies

- ▶ Transparency: crowdfunding for green growth label (2017)
- ▶ Long term perspective for RE sector: multi-annual energy plan (PPE, introduced in 2015)
- ▶ Other RE investments: Greenfin label (2015), PACTE law (2019)

■ Need for additional research on the precise decision-making process based on survey data or experimental methods

■ Discussion of the results

- Exploratory contribution to a better understanding of the RE crowdfunding sector
- Future lines of research
 - ▶ Precise influence of crowdfunding on project development, including acceptance
 - ▶ Links of platforms with the banking sector and influence of regulation changes
 - ▶ RE investments portfolio allocation and influence of crowdfunding investment on opinion

 - ▶ RE crowdfunding from developed countries to developing countries
- Recommendations
 - ▶ Protection of investors: liquidity risk, presentation of risks

Merci pour votre attention.
Je suis à votre disposition pour répondre à toute question.

■ Bibliography

BP (2019). *Statistical Review of World Energy*.

GreenUnivers and FPF (2017). Baromètre 2016 du crowdfunding EnR.

GreenUnivers and FPF (2018). Baromètre 2017 du crowdfunding EnR.

GreenUnivers and FPF (2019). Baromètre 2018 du crowdfunding EnR.

GreenUnivers and FPF (2020). Baromètre 2019 du crowdfunding des EnR.

Li, D., Zhao, L., Ma, S., Shao, S., and Zhang, L. (2019). What influences an individual's pro-environmental behavior? a literature review. *Resources, Conservation and Recycling*, 146:28–34.

Mazars and FPF (2020). *Baromètre annuel du crowdfunding en France 2019*.

YouGov France for FPF and the MTES (2019). Enquête sur le financement participatif des énergies renouvelables.