

Supplementary materials for tracking demographic and financial trends in renewable energy cooperative membership in Belgium using survey and bank transaction data

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Table S1: Renewable energy cooperative (REC) share prices

REC	Year of Foundation	Articles of Association	Share Price (€)
Altercoop	2015	2020, 2022	250
Allors en vent	2001	2023	100
Ampère	2014	2014	100
Beauvent	2000	2000, 2023	250
BocagEn	2017	2017	100
Bronsgroen	2012	2012	125
Brupower	2022	2022	50
Campina Energie	2015	2015, 2022	250
Champs d'Energie	2013	2021	125
CLEF	2008	2008	250
Condroz Citoyennes Energies	2014	2014	250
Coopeos	2015	2015	250
Cooperlic	2021	2021	100
CoopStroom	2017	2017	250
Courant d'Air	2009	2009	250
Denderstroom	2016	2016	250
Druifkracht	2019	2019	250
ECoOB	2018	2018	250
Ecopower	1991	2021	250
Emission Zero	2007	2007, 2013	260
Energ'lttre	2019	2019	250
EnerGent	2013	2013, 2022	100
Eole-lien	2013	2013	100
Ferréole	2012	2012 2023	250 125
HesbEnergie	2013	2013	125
Klimaan	2019	2019	100
Luceole	2010	2023	250
MegaWattPuur	2019	2019, 2020	125
Navitas Energie	2020	2020	250
Noordlicht	2018	2018	250
Nosse Moulin	2011	2011	250
Pajopower	2014	2014, 2019	250
Stroomvloed	2017	2017	250
Vent d'ENFAN	2021	2021	125
Vents du Sud	2012	2012	100
Vlaskracht	2018	2018, 2023	250
Volterra	2014	2014, 2019	125
Wattardenne	2018	2018	100
ZonneWind	2017	2017	100
ZuidtrAnt	2016	2016	100

Table S2: Renewable energy cooperative (REC) membership status of bank clients

Renewable energy cooperative	Count	Frequency
Members	26,636	2.0
unknown	13,549	50.9
pre 2012	8,247	31.0
2012	948	3.6
2013	421	1.6
2014	178	0.7
2015	217	0.8
2016	456	1.7
2017	387	1.5
2018	519	2.0
2019	394	1.5
2020	334	1.3
2021	520	2.0
2022	466	1.8
Non-members	1,332,631	98.0
Total	1,359,267	100.0

Source: data is derived from BNPPF transaction data (Methods). Count and frequency of renewable energy cooperative (REC) new members in each year of first time investment. The count and frequency of non-members and the total.

Table S3: Variables and their definitions: bank data

Variable	Definition
Age	Age of the client.
Age > 65 y.o.	Dummy variable being 1 if the client is 65 or older.
Children < 24 y.o.	Dummy variable being 1 if the clients has children under the age of 24.
Consumption (monthly)	Alcoholic beverages and tobacco, cash, fines, food and beverage serving services, fuels and lubricants for personal transport equipment, garden products and pets, groceries, medicines and health products, other non-durable goods, personal care products, security equipment and materials for the maintenance and repair of the dwelling and utilities. Assistive products, cultural and recreational durables, furniture, furnishings, and loose carpets, information and communication equipment, luxury goods, and purchase of vehicles. Clothing and footwear, households textiles, tableware, and small appliances, other cultural and recreational goods, and parts and accessories for personal transport equipment. Accommodation services, actual rentals for housing, cultural and recreational services, domestic services and household services, education (mandatory, other, tertiary), health services, food and beverage serving services, information and communication services, insurance, other services, package holidays, passenger transport services (air, public, road, and water), personal care services, refuse collection, services for maintenance, repair, and security of the dwelling, services in respect of personal transport equipment, sewage collection, social protection, and transport services of goods. Household appliances, mixed retail (building materials and personal use), credit card payments.
Debt	Balance of long-term loans, short-term loans, overdrafts and average monthly negative balance in checking account.
Financial wealth (monthly)	Balance of current, saving, active term, security, and invest account and pension savings.
Liquid wealth (monthly)	Balance of current and savings account.
Net Income (monthly)	Labour wages, replacement unemployment income, replacement pension income, real estate income and social security, child benefits.
Married	Dummy variable being 1 if the clients is married.
Securities	Balance on security accounts.

Source: data is derived from BNPPF transaction data (Methods).

Table S4: Table of balance: survey respondents

	Members	Non-members	Full sample
Sample size	1,012	1,349	2,361
Share younger than 25 years (%)	0.4	26.5	11.5
Share 25 to 34 years (%)	5.6	45.3	22.6
Share 35 to 44 years (%)	16.6	17.6	17.0
Share 45 to 54 years (%)	22.8	7.1	16.1
Share 55 to 64 years (%)	26.4	2.8	16.3
Share older than 64 years (%)	28.2	0.7	16.4
Share with a monthly net household income below 2,000 euros (%)	8.7	27.1	16.5
Share with a monthly net household income 2,000 to 2,999 euros (%)	19.1	19.2	19.2
Share with a monthly net household income 3,000 to 3,999 euros (%)	21.2	18.8	20.2
Share with a monthly net household income 4,000 to 4,999 euros (%)	21.0	15.5	18.6
Share with a monthly net household income 5,000 to 5,999 euros (%)	17.6	11.2	14.9
Share with a monthly net household income of 6,000 euros or higher (%)	12.3	8.2	10.6
Share with primary as highest educational degree (%)	0.4	0.2	0.3
Share with secondary as highest educational degree (%)	18.8	19.9	19.3
Share with bachelor as highest educational degree (%)	32.8	37.9	35.0
Share with master as highest educational degree (%)	43.3	37.0	40.6
Share with a PhD as highest educational degree (%)	4.3	4.5	4.4
Share home-owners (%)	94.7	34.2	68.8
Share with a heat pump (%)	17.7	14.5	16.3
Share with photovoltaics (%)	67.7	14.4	44.9
Share living in an apartment (%)	11.0	63.2	33.4
Share living in a terraced house (%)	23.3	14.6	19.6
Share living in a semi-detached house (%)	25.4	8.3	18.1
Share living in a villa (%)	40.2	13.9	28.9
Share living in a rural area (%)	37.4	13.1	27.0
Share living in a suburban area (%)	33.4	24.7	29.6
Share living in a city	29.2	62.2	43.3
Mean number of membership years	9.98		9.98
Median self-assessed understanding about RECs	3.345	2.012	2.775

Source: data is derived from our survey (Methods). Self-assessed knowledge about renewable energy cooperatives (RECs) is a reported value on a scale from one to four, as respondents were asked to indicate how well they knew the concept of RECs on a one to four Likert scale.

Table S5: Variables and their definitions: survey data

Variable	Definition	Scale
Age	Age of the survey respondent.	1 to 6 scale: starting at 18-24 years old, ten years added per unit increase
Education	The survey respondent's highest degree.	1 to 6 scale: unidentified, primary, secondary, bachelors, masters, PhD.
Income	Respondent's net monthly household income.	1 to 7 scale: starting at 0-999 euro, thousand euros added per unit increase
Pro-environmental mindset	The level of the survey respondent's agreement with four environmentally-themed statements.	1 to 4 scale
REC understanding	The survey respondent's self-reported understanding of the concept of a REC.	1 to 4 scale
EV	The survey respondent drives an electric vehicle.	Dummy
HP	The survey respondent has invested in a residential heat pump.	Dummy
PV	The survey respondent has invested in a residential photovoltaic system.	Dummy
Apartment	The survey respondent lives in an apartment.	Dummy
Semidetached	The survey respondent lives in a semidetached building.	Dummy
Terraced	The survey respondent lives in a terraced house.	Dummy
Villa	The survey respondent lives in a villa.	Dummy
Rural	The survey respondent lives in a rural area.	Dummy
Suburban	The survey respondent lives in the suburbs of a city.	Dummy
City	The survey respondent lives in a city.	dummy
Home owner	The survey respondent is the owner of the dwelling in which the respondent lives.	Dummy
Years member	The number of years being a REC member.	Number of years

Source: data is derived from our survey (Methods).

Table S6: Logit regression: willingness to invest (WTI) of non-members vs members.

Willingness to invest	Members	Non-members	Full sample
Sample size	811	567	1,453
Age	0.323*** (0.121)	0.141 (0.099)	0.375*** (0.058)
Income	0.297*** (0.109)	0.301*** (0.063)	0.265*** (0.050)
Pro-environmental mindset	0.933*** (0.202)	0.997*** (0.161)	1.000*** (0.116)
Education	0.189 (0.161)	0.003 (0.117)	0.026 (0.087)
REC understanding	-0.265 (0.232)	0.402*** (0.107)	0.486*** (0.085)
HP	-0.201 (0.407)	0.758*** (0.262)	0.451** (0.211)
PV	0.417 (0.321)	-0.105 (0.304)	0.331* (0.188)
Home owner	0.022 (0.537)	-0.199 (0.258)	0.072 (0.217)
Apartment	-0.122 (0.532)	0.994*** (0.376)	0.438 (0.280)
Semi-detached	-0.342 (0.370)	0.622 (0.430)	0.041 (0.250)
Terraced	-0.069 (0.446)	0.228 (0.393)	-0.010 (0.254)
Villa	0	0 (omitted)	0
Rural	0.769* (0.452)	0.444 (0.353)	-10.160 (468.497)
Suburban	-0.097 (0.356)	-0.009 (0.243)	-10.632 (468.497)
City		0 (omitted)	-10.555 (468.497)
Years member	-0.055*** (0.019)		
Constant	-8.118*** (-2.092)	-11.874*** (-1.592)	-1.394 (0.468)
Pseudo R2	0.124	0.142	0.279
Log likelihood	-206645	-334579	-610.871

Source: data is derived from our survey (Methods). Significance levels after two-sided z-test are indicated with *** for $P < 0.01$, with ** for $P < 0.05$ and with * for $P < 0.1$. Observations of respondents who indicated to have a willingness to invest (WTI) of 3 on a 1 to 5 Likert scales were not retained. Standard errors reported in parentheses.

Table S7: OLS regression result: non-members' motivations to invest in a renewable energy cooperative (REC)

Variable	Coefficient
Production of sustainable energy	0.078** (0.030)
The return on investment	0.032 (0.027)
The location of the renewable installation	-0.004 (0.024)
The co-owners of the renewable installation	0.064** (0.025)
The influence of advice of others	0.018 (0.022)
Constant	2.722*** (0.174)

Source: data is derived from our survey (Methods). Standard errors of the OLS regression between parentheses. Only non-members who indicated to have a willingness to invest (WTI) in a renewable energy cooperative (REC) of minimum 3 on a 1 to 5 Likert scale were included in this regression ($n = 588$). Significance levels after two-sided t-test are indicated with *** for $P < 0.01$, with ** for $P < 0.05$ and with * for $P < 0.1$.

Table S8: Item correlations and Cronbach's alpha for regrouped variables of pro-environmental mindset for the full survey sample ($N = 2,358$)

Variable	Item-test correlation	Item-rest correlation
Pro-environmental mindset		
I want to feel that I am personally contributing to the protection of the environment	0.850	0.722
I am concerned about climate change	0.771	0.595
I am the type of person who cares about the environment	0.881	0.776
I see myself as an environmentally conscious consumer	0.838	0.702
Cronbach's alpha	0.855	

Source: data is derived from our survey (Methods).