



Covenant of Mayors
for Climate & Energy



How cooperatives can finance energy efficiency renovations



INTRODUCTION



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Setting the scene: overview cooperative model



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*Energy efficiency: how cooperatives
can save energy*



REScoops: a vehicle to empower citizens and local economy

Setting the scene: overview of the cooperative model

by Dirk Vansintjan

Brussels, 05/12/2017



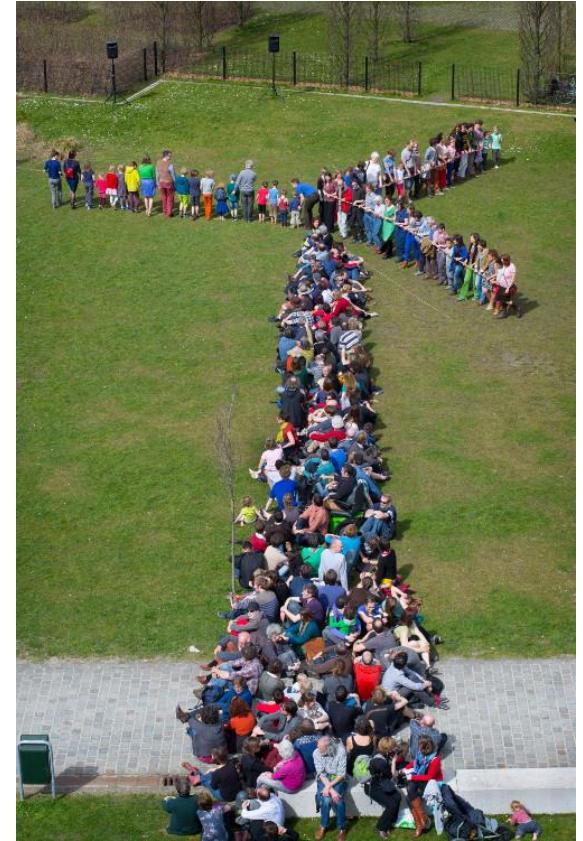
What is a REScoop?

Renewable Energy Sources cooperatives
or community power, community energy
initiatives, or now CE4AE:

‘renewable energy communities’

‘(local) energy communities’

- most very young, some very old
- most quite small, some bigger



This project has received funding from the
European Union's Horizon 2020 research
and innovation programme



REScoop.eu definition energy community

- Can be any autonomous legal entity
 - with voluntary and open membership for natural persons, local authorities and small and micro enterprises,
 - that is effectively and democratically controlled by its shareholders/members,
 - who participate as final customers of the energy community,
 - who have equal decision making rights,
 - whose predominant aim is to provide environmental, economic or social community benefits for their members or the local area or areas where they operate.
- Can be engaged in: generation, distribution, supply, self-consumption, aggregation, storage, energy-efficiency services, electro-mobility, other energy services to its members.
- Can be local or virtual (renewable) energy communities.



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What is a REScoop? ICA-principles



1. voluntary and open membership
2. economic participation
3. democratic ownership
4. autonomy and independence
5. training and education
6. cooperation amongst cooperatives
7. concern for community

Value driven!



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Where are these REScoops?



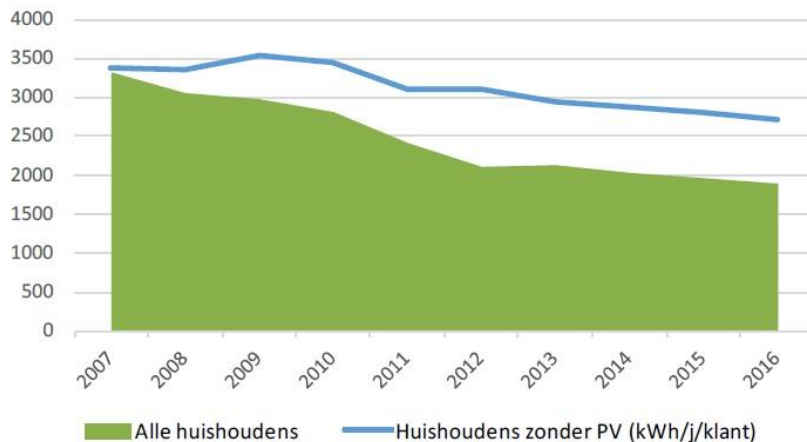
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Example: Ecopower (Flanders, BE)



Gemiddeld verbruik



- 1982: not for profit organisation
- 1985: purchase 2 historical watermills
- 1991: foundation renewable energy cooperative Ecopower around kitchen table
- 1995: start production green electricity in Rotselaar
- 1996: foundation of ODE-Vlaanderen
- 1999: support mechanism/tender city of Eeklo
- 2001-2: Eeklo: $2 \times 1,8 \text{ MW} = 1 \times 0,6 \text{ MW WTG}$
- 2003: start as supplier/growth
- end 2016: 50.000 members/ 100 GWh/y production/supply/ 1,5% of Flemish households/50 M€ equity
- production/supply of wood pellets (in mine region)
- 41% has PV: 76 GWh/y
- consumption from grid has dropped
 - less than 2000 kWh/y (PV-owners)
 - less than 3000 kWh/y (no PV)
- Ecotraject to help members renovate home
- 4% dividend over year 2016
- Energy Transition Partner several cities Eeklo, Asse, Beersel, Leuven, Lanaken, Amel, Bülingen, ...





Example: city of Eeklo



'SEAP' in 1999

Space to erect wind turbines selected in participative trajectory

Tender rewarding participation of citizens

Selection of Ecopower

Permits without objections

Building of windturbines in 2001-2

New tender 10 years later for 2 additional wind turbines

Selection of Ecopower

Proposal of Ecopower: partnership



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Direct participation Ecopower (2013)



in 1 x 2 MW wind turbine

Profit sharing: 100%
Energy bill: ▼

€ 3,000,000
100%
dividend (2%)
€ 60,000



Lower energy bill
€ 180,000



100%

100%

social objective
and added value to
society

€ 240,000
(8%
guaranteed)

100%

4,000,000 kWh green electricity à 0,21€

capital -profit- production

co-owner – creation of added value to society – self
determination

Example: city of Leuven (BE)

City of Leuven (100.000 inhabitants, university town, Green leaf award 2018)

Leuven 2030: targets, participation

Looking for partner through tender

Selection of Ecopower plus consortium

Elena project bundling PV and EE projects

Roll out in whole province of Flemish Brabant

Creation of local Licht groups



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Example: Schönau (DE)

Tjernobyl

EWS owns its own local distribution grid now

Berlin, Hamburg, ...



This project has received funding from the European Union's Horizon 2020 research and innovation programme



Example: wind and district heating coops (DK)

Walhalla for RES production

Government supports RES and citizens (stop and go)

Result:

300 wind coops, e.g. Middelgrunden (Copenhagen)

600 district heating cooperatives

Offshore windfarm has become landmark of
City of Copenhagen



This project has received funding from the European Union's Horizon 2020 research and innovation programme



Example: South Tirol (IT)

Century old REScoops in the autonomous
Region of South Tirol

Hydro - smart grids & meters

Südtiroler Energie Verbund (SEV)

80 REScoops



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REScoop.eu, the European federation



*REScoop.eu
empowers
citizens and
cooperatives in
their fight for
energy
democracy*



REScoop.eu, the European federation



- 1.300 REScoops from 13 European countries
- 1.000.000 citizens
- 1.100 jobs
- total investment 2 billion euro
- production 1GW



REScoop.eu, the European federation

- represents the voice of citizens and REScoops in Brussels in collaboration with CEC
- supports start up of new REScoops
- provides services to members
 - E-mobility
 - financing: Mutual: 'REScoop Mecise SCE'
 - ICT
 - academic network/mentor network
- promotes the REScoop model



REScoop.eu, the European federation

- participates in EU funded projects to develop services



Objectives

The goal of PV FINANCING is to identify, in all the covered countries, the most profitable business models and financing schemes for PV Systems.

Expected results

- Business Model reports that explains several business model options including the cooperatives
- Financing scheme of PV from around Europe
- The project ended in August 2017



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 696084

Objectives

CITYinvest focuses on supporting and replicating successful innovative financing models for energy efficiency renovations in public buildings. The consortium features models, based on Energy Performance Contracting (EPC), Third Party Financing (TPF), revolving funds, cooperatives and others.

Expected results

- Building capacities and skills of local authorities.
- Triggering energy savings in three pilot regions in Belgium, Bulgaria and Spain.
- Preparing ground for investments in energy efficient deep renovations of public buildings.
- Shaping regulations and policies on local, national and European level
- <https://vimeo.com/221553586>



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Objectives

REScoop MECISE will develop renewable energy projects and use part of the revenues to initiate energy efficiency investments in private homes and public buildings. This approach aims to enforce the relationship between REScoops and local authorities.

Expected results

- At least 30 M€ investments in EE and RE
- The creation of EcoTraject : a tool for energy efficiency in building for citizens
- The creation of a financing tool for REScoop projects



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Objectives

The objective of the WiseGRID project is to demonstrate an integrated Ecosystem that will establish an innovative approach for the management of the electrical power grids setting the cornerstones of the future Smart Grid.

Expected results

- Deploy 5 pilots of community micro-grids
- Create an integrated framework (legal and business model) to support micro grids
- Build 9 technical tools to allow the deployment of a community micro grid with that addition of electrical mobility and storage



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 696084





Objectives

Flexcoop is a project that will deploy tools and strategy to allow private consumers and communities to participate in the flexibility market.

Expected results

- Create an “energy butler” to manage demand response at the prosumer level
- Create a framework (legal and business model) to support the participation both of prosumer and cooperative in the flexibility market
- Starts in October 2017



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REScoop.eu, the European federation

Staff members (6+0,5)

Board of directors

Ecopower (BE)
De Windvogel (NL)
Enercoop (FR)
Som Energia (ES)
(DGRV (DE))

General Assembly

Full & associate members

Partnerships

Cooperatives Europe
Coalition of Energy Savings
Community Energy Coalition

National branches

Belgium, Netherlands, Spain,
England, Scotland, Wales,
Germany, Switzerland



Contact: info@rescoop.eu

Thank you!



ENERGY-EFFICIENT CITIES BEYOND BUILDINGS: SMART GRIDS & DISTRICT HEATING



Daan Creupelandt
REScoop.eu



Ine Swennen
EcoPower



Bram Pauwels
Beauvent



Brussels – December 5th, 2017

Cooperatives financing large projects

Daan Creupelandt





REScoop.eu | European federation of renewable energy cooperatives

- 1.250 European energy cooperatives
- Over 1 million EU citizens
- Joint investment of over 2 billion euro
- European advocacy
- Organisation of networking events
- Promotion of REScoop business model
- Provide services to members
 - REScoop PROJECTS
 - REScoop RES and EE
 - REScoop IT
 - REScoop MOBILITY
 - REScoop MECISE





European REScoops





Financing needs of energy cooperatives

- Starters have great ideas but often lack funds
- Established REScoops have funds but not always projects
- Scale-up the size of individual investments





REScoop Mutual for Energy Communities
Investing in a Sustainable Europe.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 649767. The sole responsibility for the content of this website lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.



Founding members

	Spain	37.000 members 55.400 customers
	UK	13.250 members
	France	27.000 members 42.000 customers
	Belgium	51.500 members 43.000 customers
	Belgium	3.000 members 1.000 customers (COCITER)
	Europe	1.250 REScoops 1 milliion customers

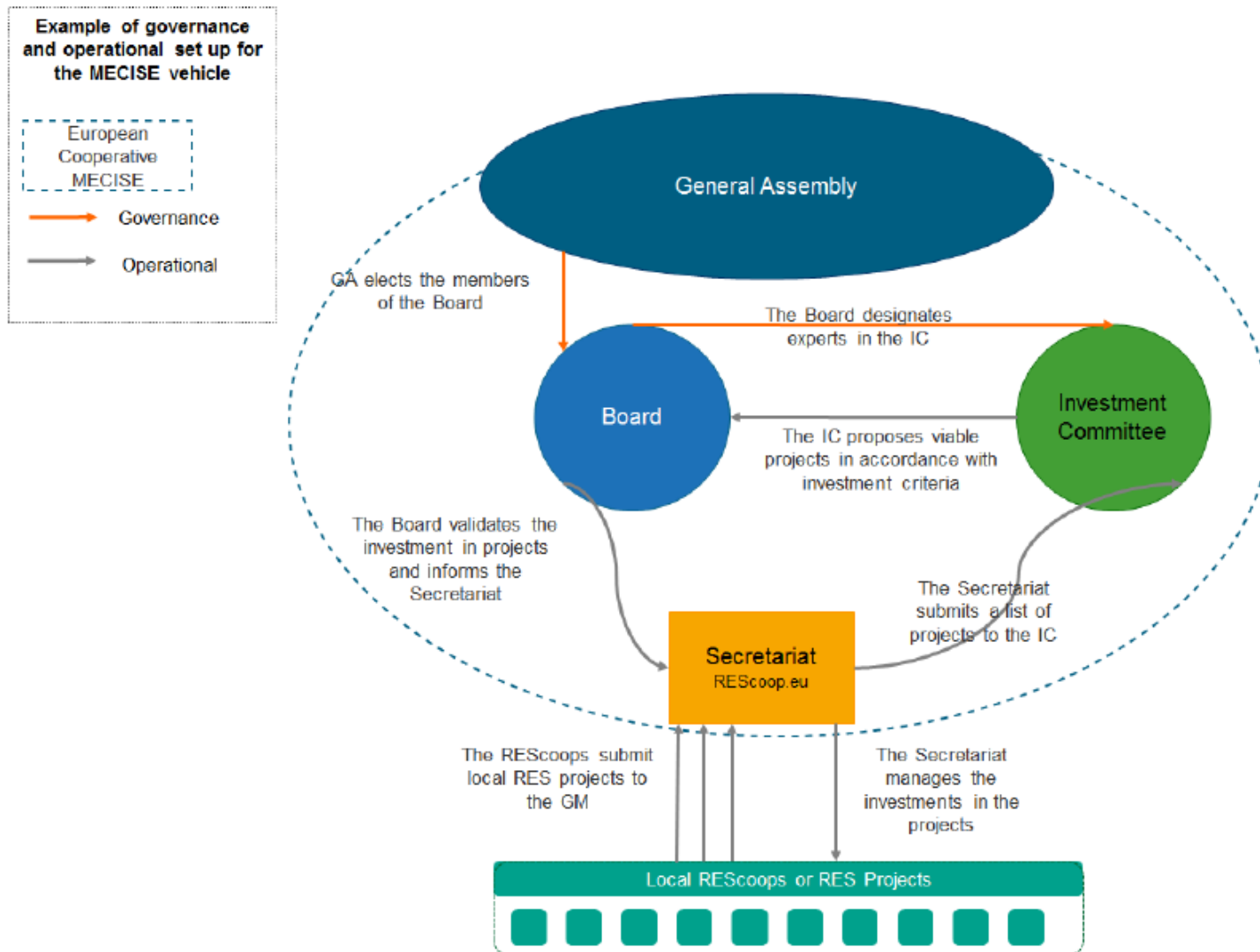


How does it work exactly?

- Only eligible to members of REScoop.eu and REScoop MECISE
- Only eligible to REScoops (not private citizens)
- Municipalities or financial institutions could be considered in a later stage
- REScoop MECISE will only provide temporal equity (not loans)
- European Cooperative Society (one member, one vote)
- Investment of 5.000 euro per share



How does it work exactly ?



BeauVent builds Warmtenet Oostende

Bram Pauwels, CITYnvest conference, 05/12/17, Brussels

BeauVent cvba

Renewable energy coop: energy conservation, energy efficiency and renewable energy

Membership is open

1 share = 250 euro

3641 shareholders, all of which hold <3% of the capital

Call for capitalisation to fund projects

“Erkende Coöperatie” → Max. 6% dividend

BeauVent cvba ?



COÖPERATIE
BEAUVENT

Key data

3,6 MWp PV solar

2,3 MW wind

2,1 MW CHP

0,6 MWp under construction

2,5 MW planned

5 MW planned

district heating under construction

7,1 million EUR capital

6% dividend since 2005





WARMTENET OOSTENDE

door BeauVent cvba

COÖPERATIE
BEAUVENT

Warmtenet Oostende - history

- 2013: POM WVL (regional development agency) confirms potential!
- 2014: Eandis (electricity and gas grid operator) works on project
- July 2015: City of Oostende invites private parties
- October 2016: BeauVent obtains permit
- October 2017: Start of construction
- Heating season 2018: first heat delivery
- 2018 – ...: further roll out

Licht op groen voor warmtenet onder de grond

18/10/2016 om 03:00 door dji



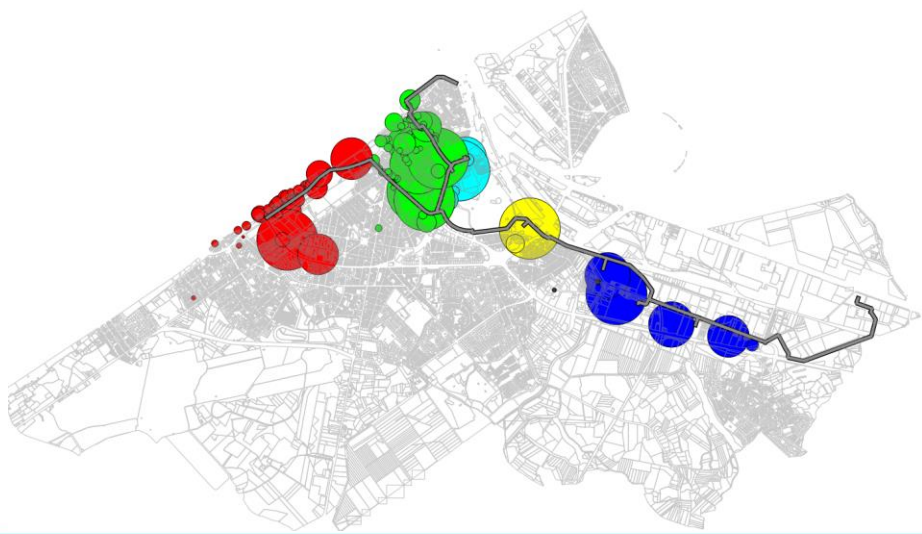
■ Schepen Tom Germonpré en Stefaan Soenen van BeauVent met een voorbeeld van een leiding van het warmtenet.

(FOTO: DJI)



OOSTENDE - De stad Oostende zet het licht op groen voor de bouw van een warmtenet. Hierbij wordt restwarmte van de industrie via 5,5 kilometer leidingen naar de stad gebracht.

0 3 km



© Beauvent ciba

Warmtenet Oostende

- Waste heat sources: 2 Waste-to-Energy facilities
- 1st phase: 5,5 km trench (total net > 15 km backbone)
- Start with 5 industrial customers (large heat consumption)
- Roll out in the city with 200+ customers (public buildings + residential dwellings)
- Subsidies of the Flemish government (VEA and Vlaio)



COÖPERATIE
BEAUVENT



COÖPERATIE
BEAUVENT



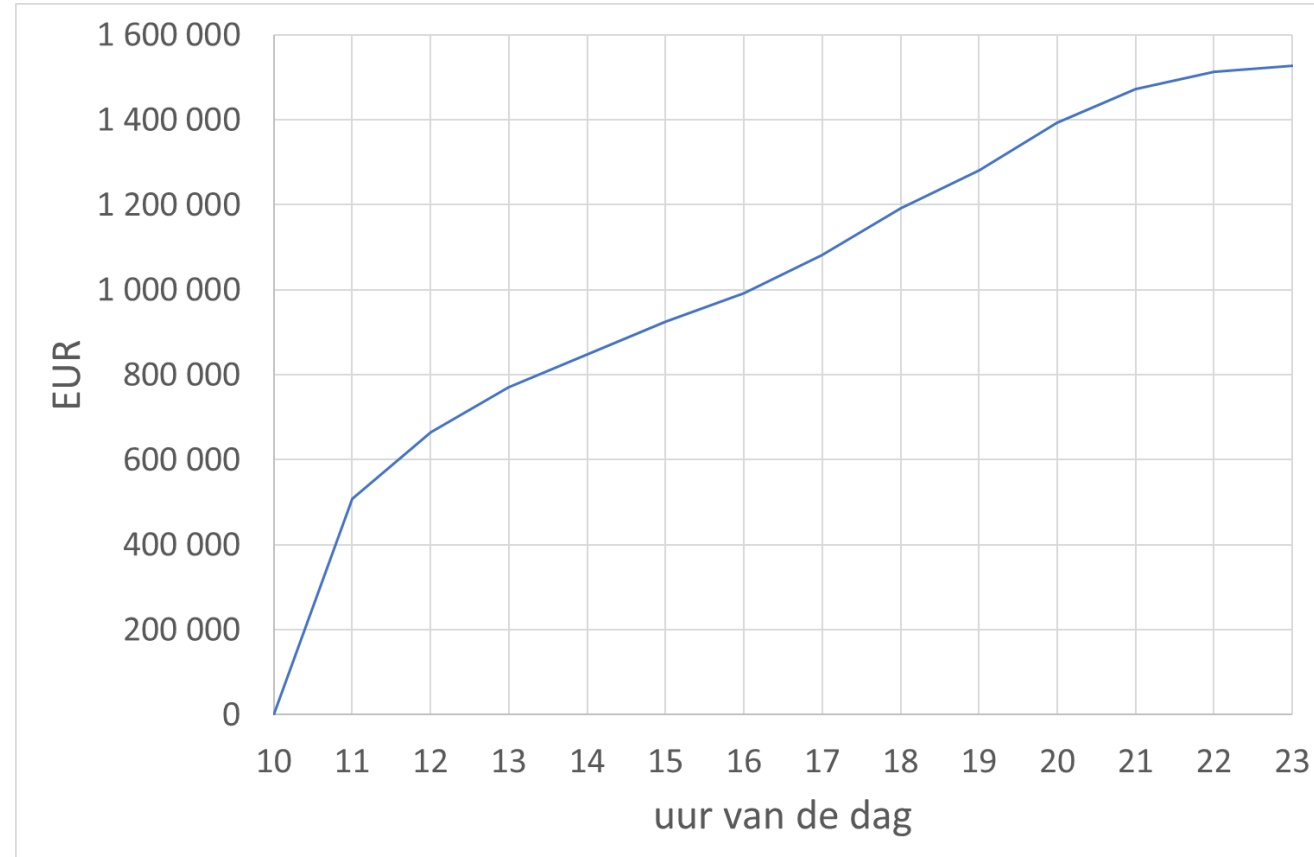
COÖPERATIE
BEAUVENT

10/10 10:00

Call for capitalisation =

1.500.000 EUR for 3 projects:

- Durable heating for home for the elderly
- PV solar project in Kuurne
- Warmtenet Oostende





MAAK EENS EEN
DUURZAME KEUZE
INVESTEER MEE MET BEAUVENT CVBA



Thanks for listening

www.beauvent.be

www.warmtenetoostende.be

BEAUVENT



Cooperatives engaging in smart grids

Ine Swennen - Project coordinator
5/12/2017 – CITYnvest

Intro

- REScoop based in Flanders
- 50.000 cooperative members / 41.500 customers
- Producer and supplier of green energy
 - Wind, Solar, Water
 - Wood pellet factory
- Energy democracy



Activities

- 1991: established
- 2003: supplier of green electricity
- 2013: supplier of green heat
- Producer and supplier of green energy = not the finish line
 - Energy efficiency
 - Smart grids

Activities - EU smart grid projects



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement No 646184.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement No 731205.



- Development and testing of 9 applications
 - ➔ adapting local consumption to local production
 - ➔ keeping the grid in balance
- Used technologies:
 - Electrical vehicles & charging point
 - Photovoltaics
 - Batteries
- Apps tested in 4 countries: BE, GR, ES, IT

- Belgium test site for developed WiseGRID apps
 - ➔ Ghent (Buurzame Stroom area)
 - ➔ testers will be e.g. energy managers SME's, residents, ..
- Users/testers of WiseGRID apps will:
 - ... get an insight in how smart grids operate
 - ... get the chance to anticipate on electricity prices and grid use (cfr. demand response programs)

WiseGRID & business models



- WiseGRID = **test** project
- Besides testing of apps also searching for effective smart grid business models
 - Ecopower as an aggregator: collecting and valorizing flexibility of citizens and SME's (DSO level)

WiseGRID & business models



- Financing partners in Buurzame Stroom smart grid:
 - EU H2020 (WiseGRID)
 - ➔ Enabling Ecopower to experiment with aggregator role as a cooperative in smart grid project & dynamic tariffs (DRM)
 - ➔ Batteries
 - Energent: collective investment in photovoltaics
 - Partago: collective investment in shared e-vehicles

Contributing role City of Ghent



- Engagement City of Ghent in Buurzame Stroom
 - ➔ facilitator
 - ➔ coordinator
 - ➔ financing role
- ➔ enabling cooperative Energent to cover personnel cost for coordinating Buurzame Stroom
- ➔ enabling read out of real time data = starting point of smartgrid

WiseGRID & business models



- Advantages for City of Ghent:
 - Increase share of collectively owned renewables in urban area by encouraging investment in PV by cooperative
 - Keeping added value in local community
 - Stimulate participation of citizens in energy transition
 - Replicate Buurzame Stroom in other areas
- ➔ Big ambitions in Climate action plan



Questions?

Ine Swennen - Project coordinator

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