

BISEPS

Business clusters Integrated Sustainable Energy PackageS

EMPOWERING SMEs IN THE GREEN DEAL FOR CLEAN ENERGY

30 June 2020



AGENDA

AGENDA

Accelerate the uptake of sustainable energy with SMEs

- How BISEPS identified a vast potential for sustainable energy with SMEs
- Unburdening trajectories activate SMEs

REACT - Renewable Energy Area Collaboration Tool

- Why use this new tool?
- Sneak preview and demo

Our recommendations to get started. And some upcoming events to join!



Accelerate the uptake of sustainable energy with SMEs

THE BISEPS PROJECT - INTRODUCTION



Dominiek Vandewiele
Senior project manager

Intermunicipal organisation Leiedal

Lead partner BISEPS

BISEPS - Empowering carbon reduction in business



Low-Carbon
Technologies

BISEPS enables the adoption of midscale sustainable energy technologies in business clusters, reducing the CO₂ emission of businesses and **increasing** their **energy profits**. BISEPS combines available knowledge on demand & supply side about barriers, drivers & solutions. A new generic tool will be available as a guidance, to be used by business clusters.

THE BISEPS PROJECT

General

- **Topic:** sustainable energy in businesses (SMEs)
- **Funding:** Interreg 2 Seas
- **8 partners:** regional development agencies, Local Authorities, knowledge partners

Objectives

- **Reducing carbon emissions** in businesses by:
 - increasing the uptake of **sustainable energy generation** technologies in **business clusters**
 - focussing on **collective solutions** exploiting synergies between businesses
 - **removing** existing **barriers**



THE BISEPS PROJECT

WHAT?

- Decision support tool (REACT): identify energy synergies in clusters
- Inter-firm sustainable energy generation in business clusters
- Targeted users: business park managers

WHY?

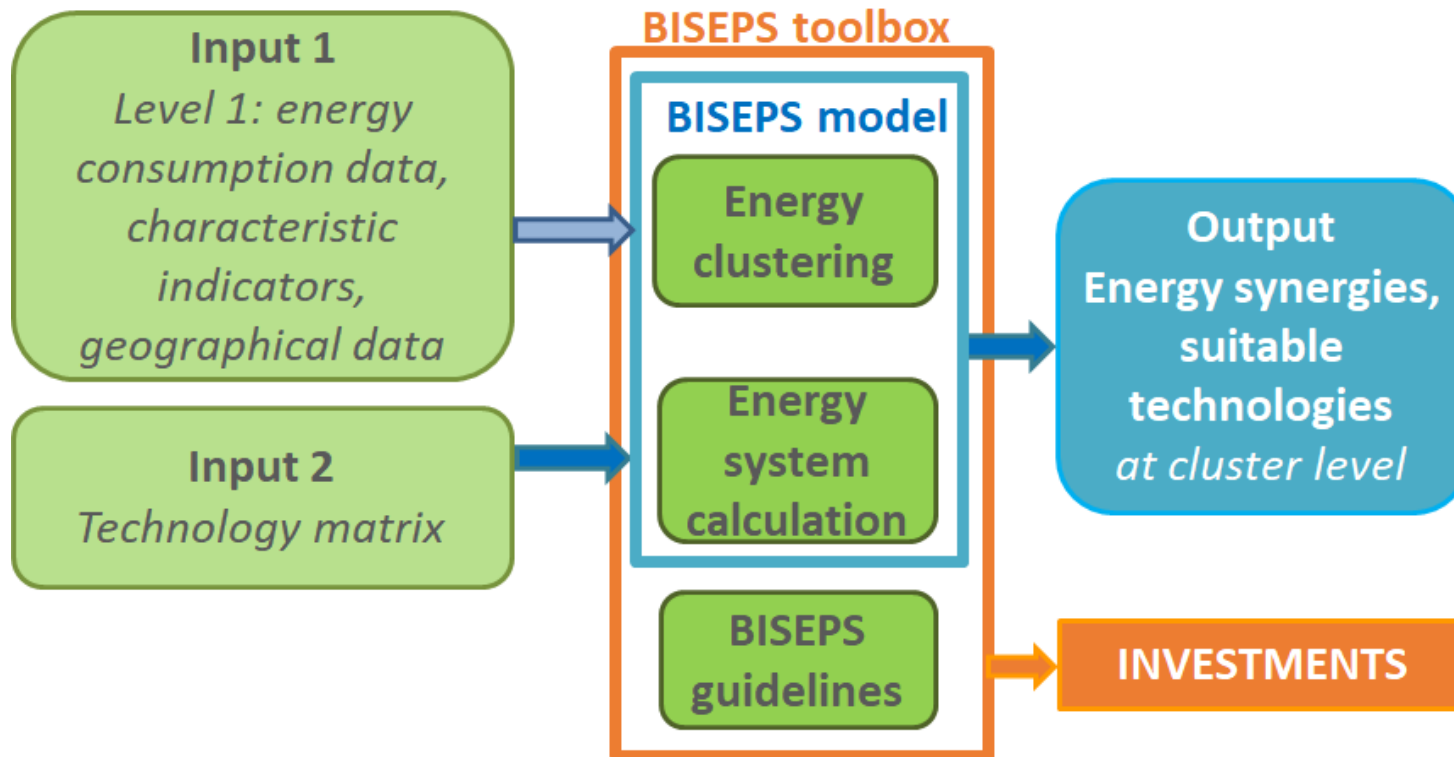
- Support
- Facilitate
- Stimulate

HOW?

- Online model
- Multi-disciplinary approach
- High-level & early-stage
- Trial on 5 living labs

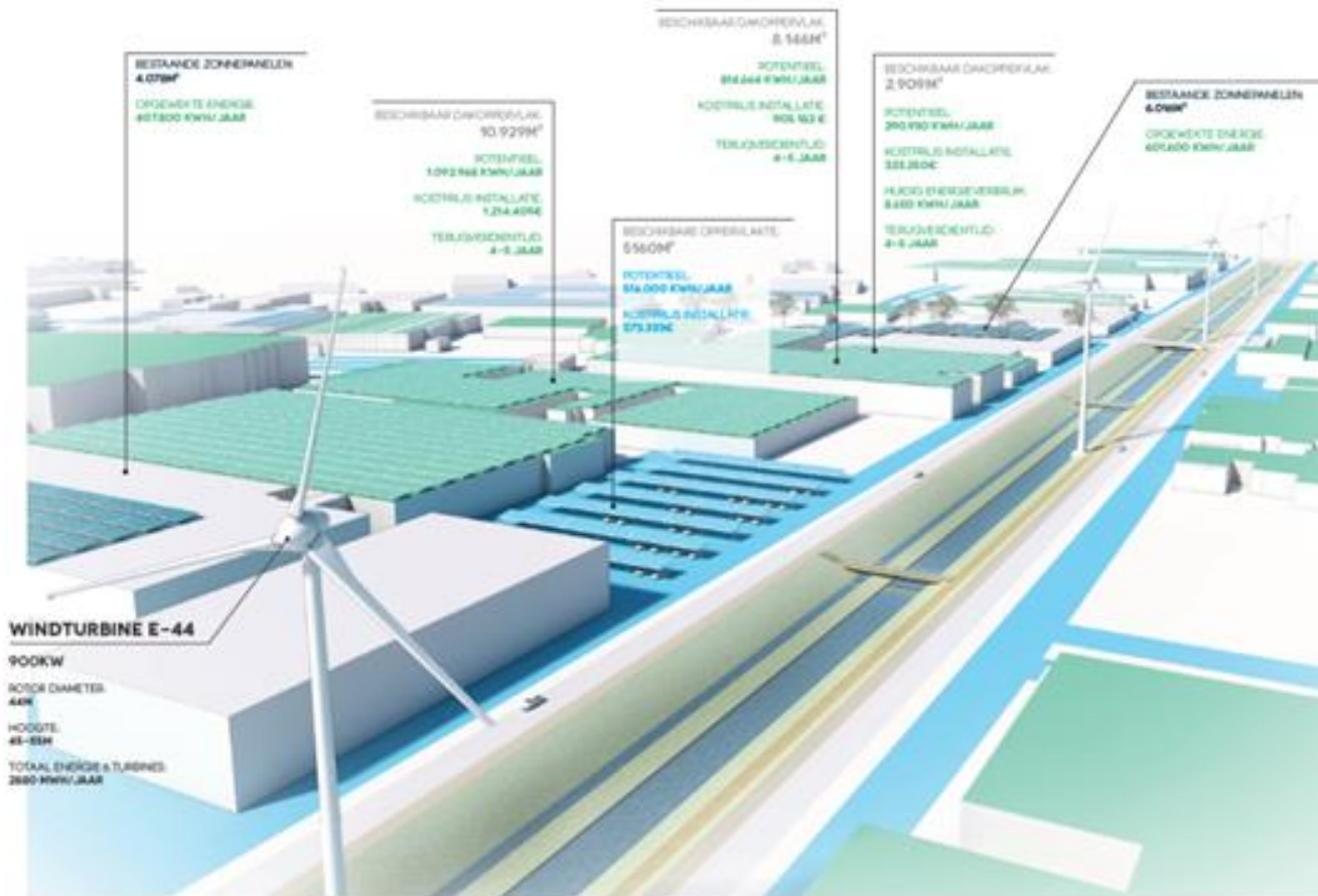


THE BISEPS TOOLBOX STRUCTURE



SMEs and business clusters offer great potential for renewable energy production







Potential wind energy
2.880.000 kWh/year



Existing solar energy
9.257.400 kWh/year



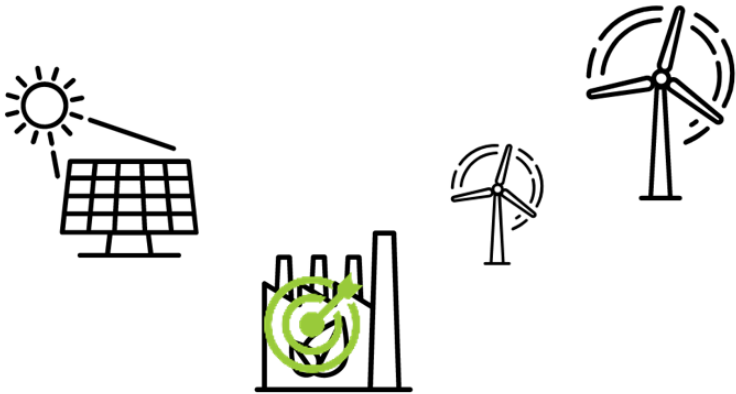
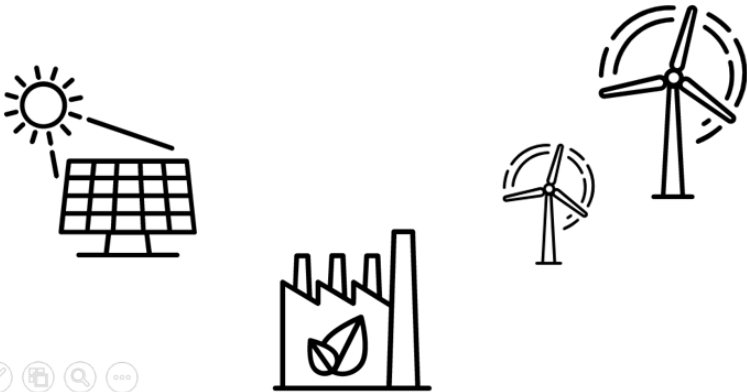
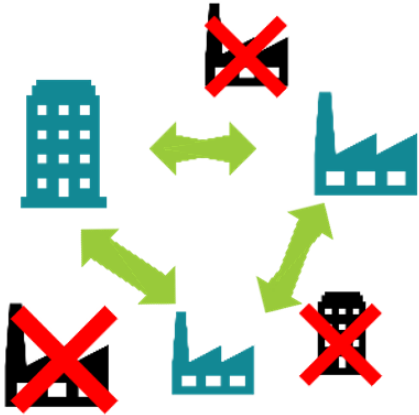
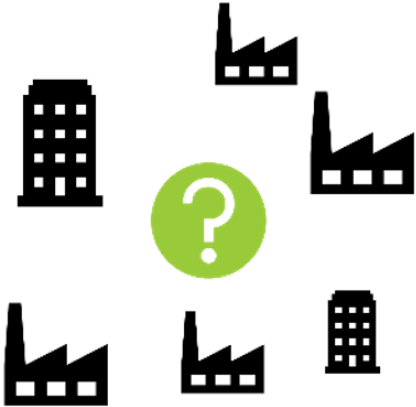
Potential solar energy
80.007.481 kWh/year



51.612.995 kWh/Year

92.144.881 kWh/Year

Creating synergies with businesses



Technology / energy synergies



Heat exchange



Solar PV



Energy storage

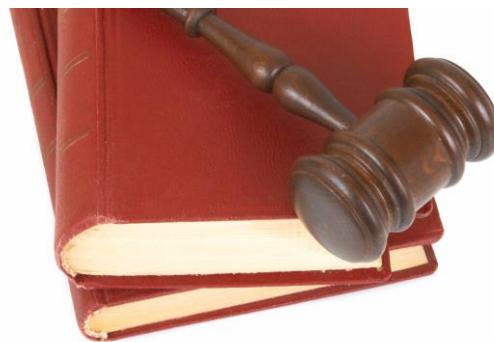


Wind energy

Organisational synergies



Knowhow



Legal issues

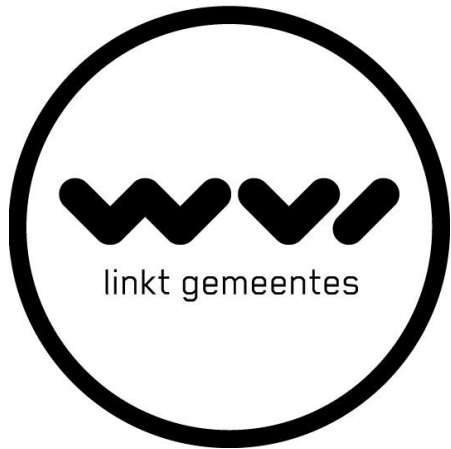


Cooperation



Unburdening

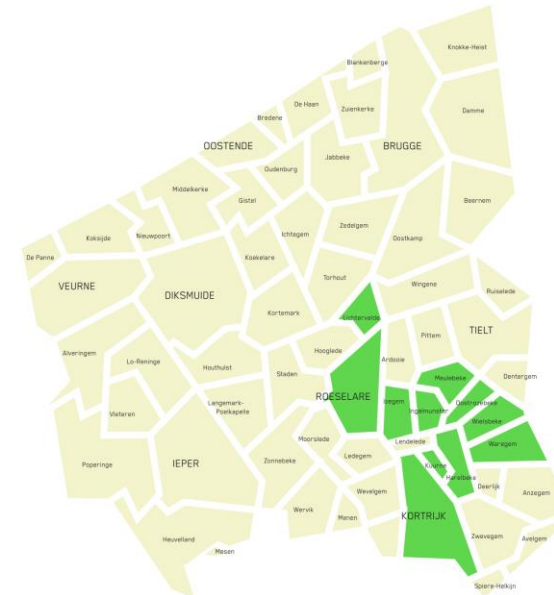
UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)



Eveline Huyghe
Responsible for European Programmes

Intermunicipal organisation WVI

Project partner BISEPS



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

- Preliminary research based on data from the distribution grid operator and roof sizes
- Contacts with companies to map in more detail energy production and consumption
 - Aim 1: find opportunities for synergies between companies
 - Aim 2: find the best unburdening options



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

How to get the companies interested?

- Information session
- Questionnaire
- E-mail
- Telephone call
- (Re)visits
- Word of mouth



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening for PV

- 3 West Flanders partners
- Appointed a consultant for:
 - Roof studies (stability, asbestos, ...)
 - Development of a PV business case

Results

- Number of studies: 60
- Number of companies that already installed PV: 13
- To be installed by the end of 2020: 15
- Results in carbon savings: 2028 tonnes/year



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening for PV: figures case Lichtervelde

Nr	Business activity	Annual electricity demand	Potential PV
1	Plastic injection molding factory	5.000 MWh	314 MWh (only parts of roof) Third party investor
2	Construction of silos	100 MWh	60-105 MWh
3	Plastic recycling	900 MWh	135 MWh Old roof with asbestos
4	Renting party tents	20 MWh	15 MWh (10kWp inverter)
5	Garage workshop	47 MWh	15 MWh (10kWp inverter)
6	Metallurgy	8,5 MWh	12 MWh (8kWp inverter)
7	Automatisation	15,7 MWh	15 MWh (10kWp inverter)
8	Sheltered workshop	400 MWh	380 MWh



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening in heat exchange

Provincial Development Agency

- Heat network between companies: residual heat from 1 company is used by other companies
- Investigation to extend the heat network towards a residential area and public buildings like e.g. a swimming pool
- Potential carbon reduction: 840 tonnes/year



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening in heat exchange

- WVI
 - 2 feasibility studies in Roeselare: heat network – steam network



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening in heat exchange

- WVI
 - Residual heat from a CHP installation of 1 company is exchanged with 1 other company, a public building and a housing area
 - Cooperation with the waste incinerator company is being investigated
 - Carbon reduction when installed: 219,5 tonnes/year



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening in heat exchange

- WVI
 - Steam network between companies that install together a sustainable external steam production unit (e.g. biomass) to use in their production processes
 - City of Roeselare took over the process trying to involve more companies
 - Carbon reduction when installed: 864,4 tonnes/year



UNBURDENING TRAJECTORIES ACTIVATE SMEs – WEST FLANDERS (BELGIUM)

Unburdening in heat exchange: some conclusions

- Heat networks: long term between planning and investment
- Feasibility studies lead to the current process of finding partners / stakeholders for e.g. financing the system
- The work does not stop after the studies and is e.g. taken over by a more suitable stakeholder
- More chances for succes when a long term investor can be found like e.g. a cooperative organisation, a public network operator, a waste incineration company, ...
- Advantage studies:
 - raised awareness about energy transition
 - starts the process of searching stakeholders, finance etc. = making the business case
 - It's a public investment in time and finance to enhance the uptake and broader roll-out of heat networks

UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)



Arjan Rook
Project Manager

Municipality of Breda

Project partner BISEPS



Gemeente Breda

UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDa (THE NETHERLANDS)

Building communities to accelerate the energy transition on business parks

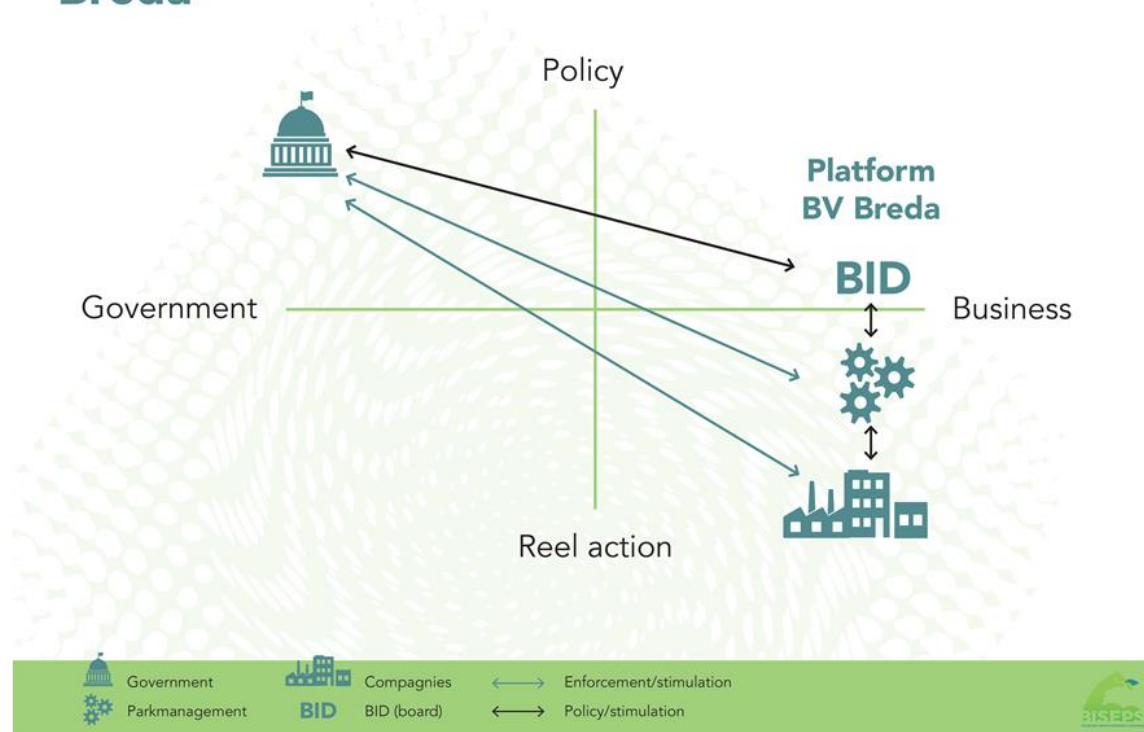
Letter of
intent with
crucial
partners

- Enexis
- Ennatuurlijk
- Business organisations
- Local cooperations
- BOM
- Hezelaer Energy

UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

Activate demand side in a collective

Breda



UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

Speak with one mouth and unburden



UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)



BREDA ENERGIE
de nieuwe werkhelptheid

[Home](#) | [Over ons](#) | [Green Deal](#) | [Producten](#) | [Partners](#) | [Quicksan zonnestroom](#)

Mijn Breda Energie 



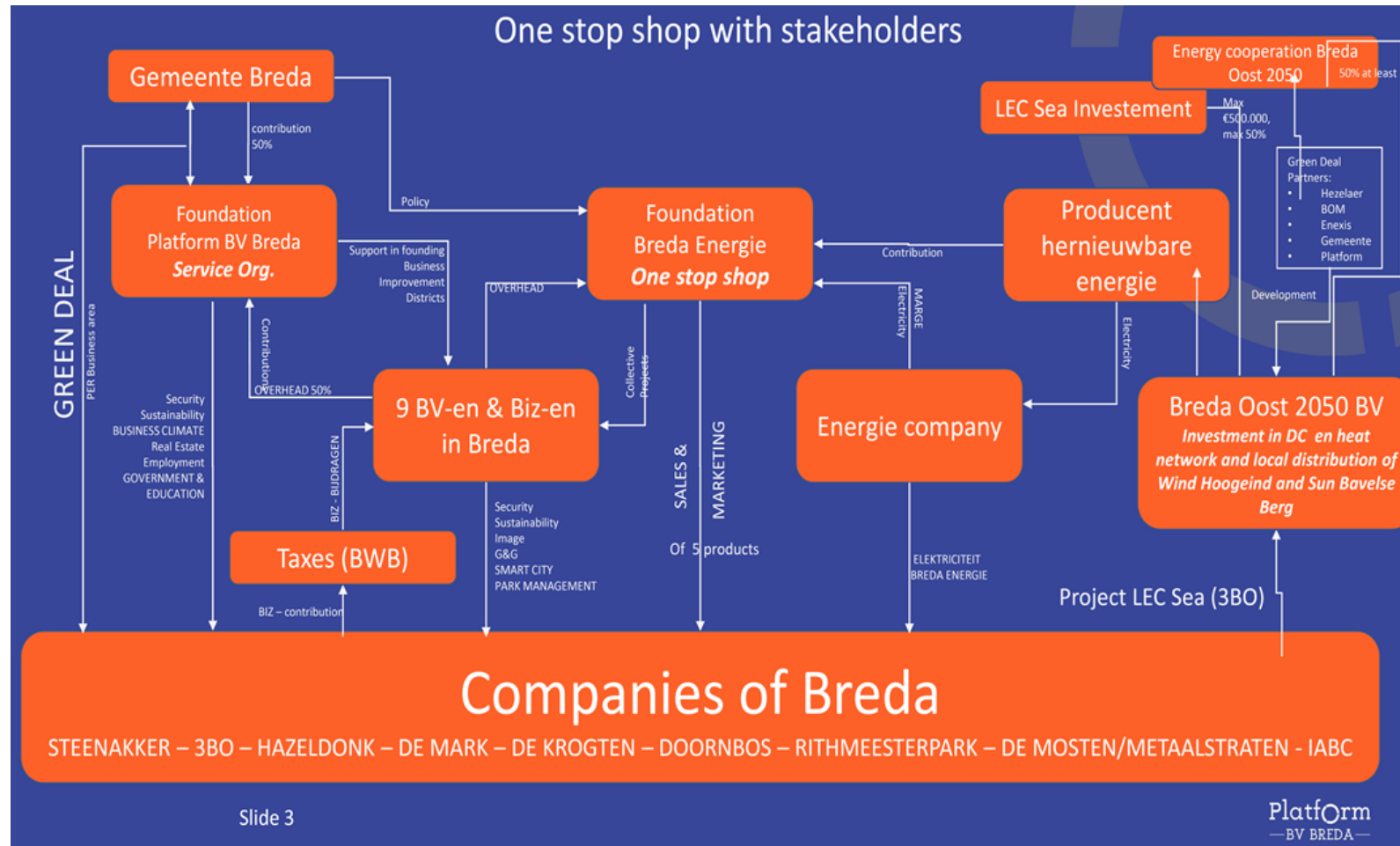
Energietransitie in Breda

Breda Energie helpt bedrijven te verduurzamen.

Zelf regelen? Neem contact op! >

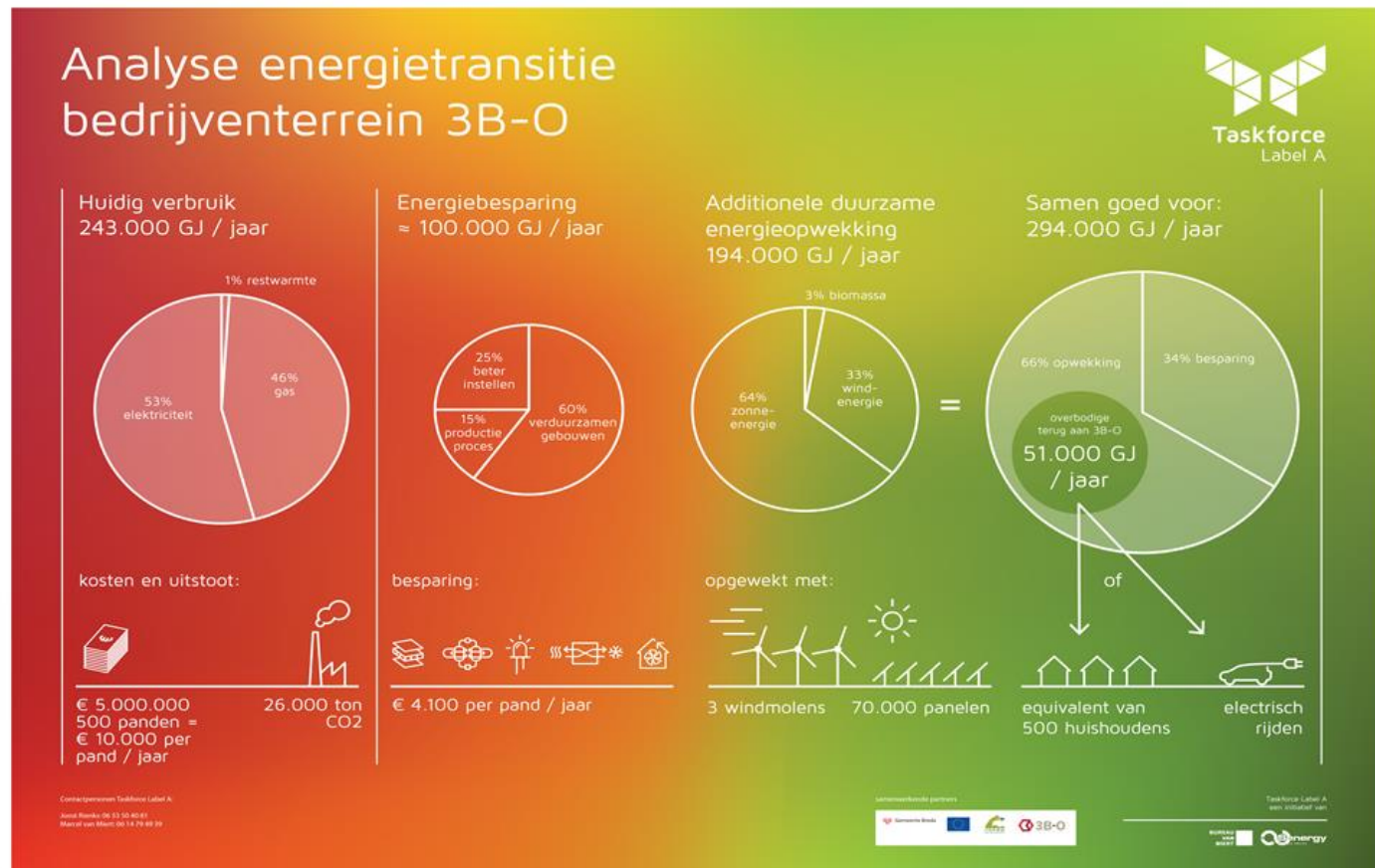


UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)



UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

Maximize saving and production of renewable energy on business parks



UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

Results so far

- 400 Quick scans on business parcs, more than 50% has started the implementation of energy saving measures
- Sun panels are being installed on 14 roofs by the Foundation Breda-Energie
- Smart Grid with a 4th and 5th wind turbine, sun panels on roofs and above a truck parking, freezing storage and batteries (Hazeldonk, project SEL)
- Research on 3 wind turbines Hoogeind (3B-O)
- Hydrogen station (3B-O)
- Electric cars in a collective (3B-O)
- Investigating a DC network with electric vehicles, sun panels and wind turbines (3B-O)
- Investigating a heat network (3B-O)

UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

New questions

1. Roadmap for saving, maximum generating and using renewable energy (Breda Energie Foundation).
2. Roadmap energy transition concerning heat. How to get rid of natural gas?
3. (How) could a direct current infrastructure balance the local grid?
4. (How) should these components be included in the BID budget?
5. Is it allowed to obligate companies to participate in the energy transition through a BID or Energy community?



UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

Short-term targets/goals

- Strengthening the demand side (collective) in the energy transition
- Within 2 years the first electricity neutral business park
- Within 2 years a 1st businesses case of heat plan and pilot in a business area

UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDa (THE NETHERLANDS)

How to get rid of the gas

	Hoogeind I	Hoogeind II+III	Moleneind	Totaal
Terugverdientijd	9	11	9	9
Warmteprijs (€/kWh)	60	70	59	63
CO2 reductie (ton/jaar)	1.758	1.594	1.926	5.278
Benodigde m² PV panelen voor elektriciteitsproductie warmtepomp	120 x 120 m	100 x 100 m	110 x 110 m	190 x 190 m
Benodigde aantal MW windvermogen voor elektriciteitsproductie warmtepomp	1,3	1,2	1,4	3,9



UNBURDENING TRAJECTORIES ACTIVATE SMEs – BREDA (THE NETHERLANDS)

Conditions for cooperation

- Government demands are clear to everyone
- There is trust between stakeholders
- The organizational level on the business parks is high (BIDs and energy cooperatives)
- It is clear what can be picked up collectively and individually
- It is clear what it costs, who pays and who earns
- Tools are developed for everyone
- Other themes like security, smart city can be included in the cooperation

UNBURDENING TRAJECTORIES ACTIVATE SMEs – MANOR ROYAL, CRAWLEY (UK)



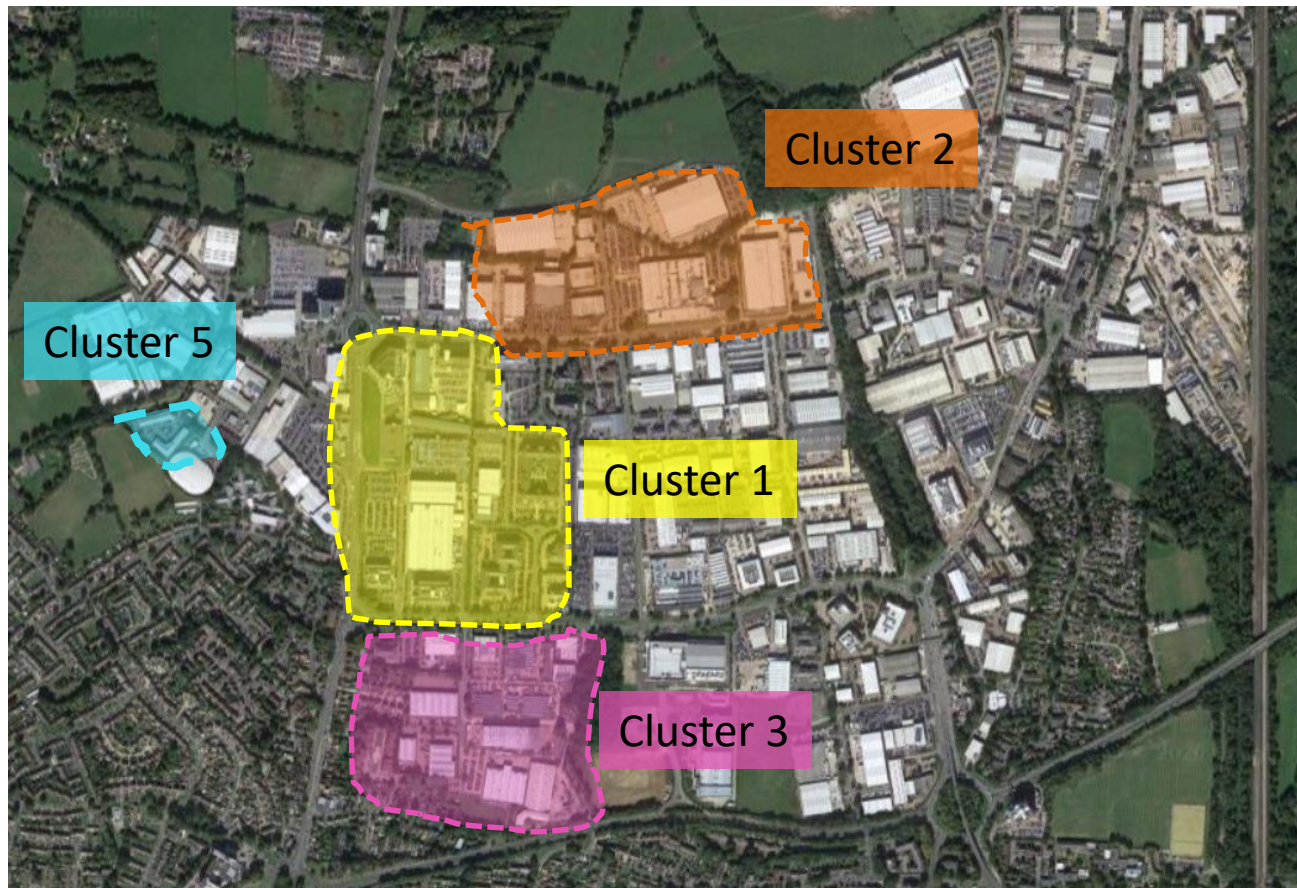
Ingrid Bennett

Project Officer, Environment & Public Protection Directorate

West Sussex County Council

Project partner BISEPS

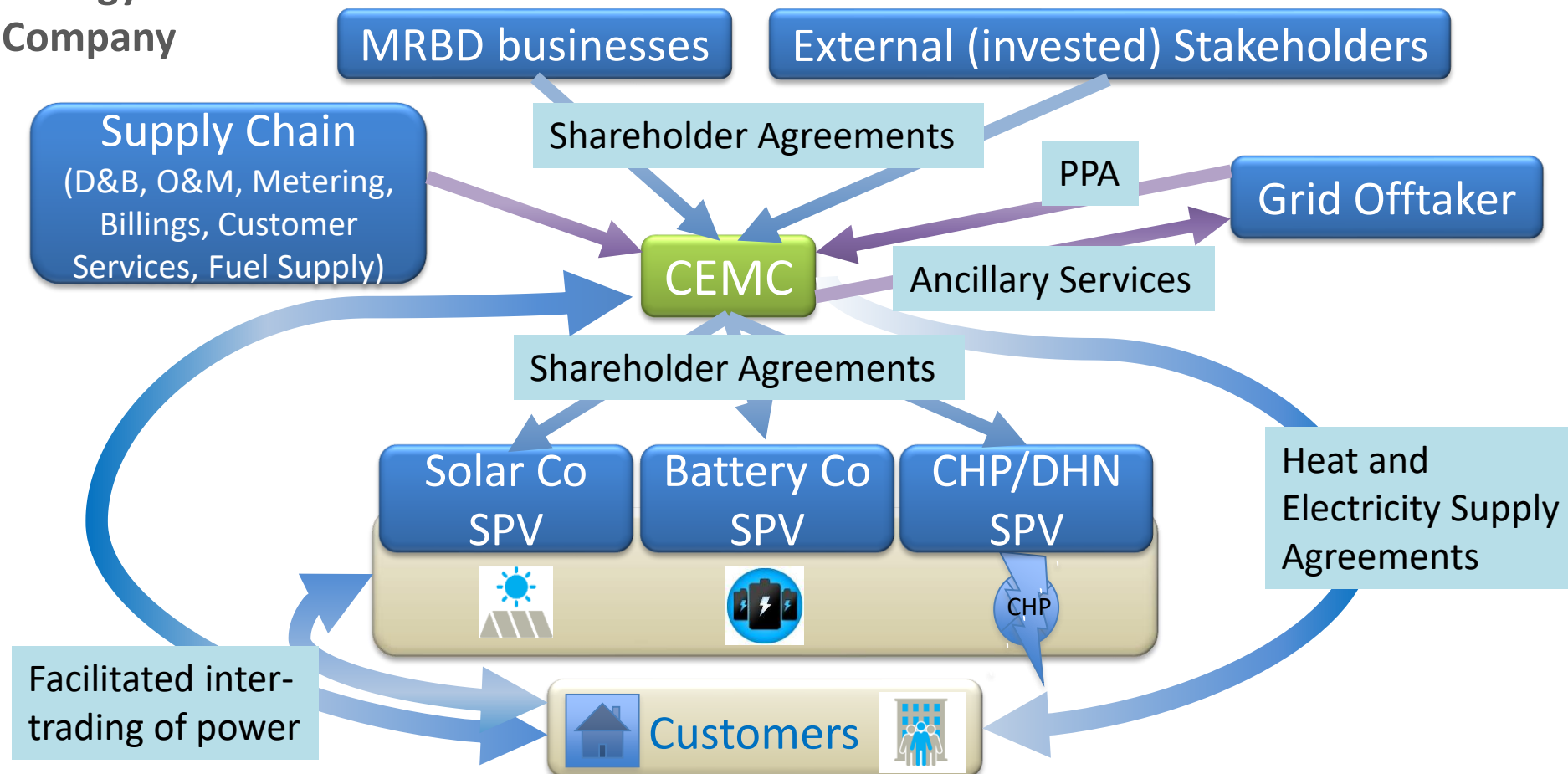
UNBURDENING TRAJECTORIES ACTIVATE SMEs – Manor Royal, Crawley (UNITED KINGDOM)



Quick facts:
Over 600 businesses
generating 30,000 jobs
across 240 hectares

UNBURDENING TRAJECTORIES ACTIVATE SMEs – Manor Royal, Crawley (UNITED KINGDOM)

How a Central Energy
Management Company
might work



UNBURDENING TRAJECTORIES ACTIVATE SMEs – Manor Royal, Crawley (UNITED KINGDOM)

Unburdening Tips and Critical Reflections

- Leadership
- Engagement
- Having assets in place opens opportunities
- A Local Energy Community is crucial





REACT - Renewable Energy Area Collaboration Tool

REACT – RENEWABLE ENERGY AREA COLLABORATION TOOL



Joannes Laveyne
Senior Researcher

Ghent University

Project partner BISEPS

REACT - Renewable Energy Area Collaboration Tool

Developed by Ghent University in cooperation with all project partners

- Aim: find optimal sustainable energy options for business clusters
- Main target group: business cluster managers
- For existing business clusters, redevelopment sites & greenfields

Minimal required data inputs to keep tool easily accessible and user-friendly

- General questions about energy usage
- Additional data input by user is possible
 - If no additional data available: estimates based on statistical and scientific research are used
- Tool generates a list of sustainable energy options/simulations based on data inputs
 - simulation can serve as a basis for further feasibility study
- Open-source, responsive design

For a sneak preview/short demo of the tool, please check the separate video on www.biseps.eu



Our recommendations to get started

OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

Step 3

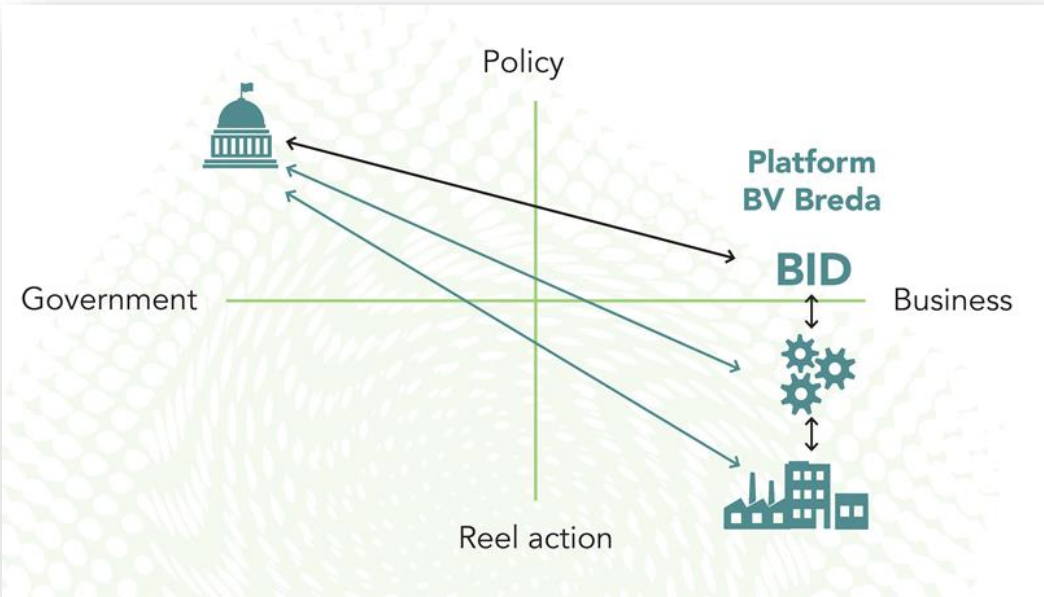
Step 4

Step 5

Step 6

Step 7

Step 8



OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

- Quickcheck the futureproofness of the business park

Step 3

Step 4

Step 5

Step 6

Step 7

Step 8



OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

- Quickcheck the futureproofness of the business park

Step 3

- Engage the businesses into the process

Step 4

Step 5

Step 6

Step 7

Step 8



OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

- Quickcheck the futureproofness of the business park

Step 3

- Engage the businesses into the process

Step 4

- Apply the REACT tool to identify the sustainable energy solutions (options and benefits).

Step 5

Step 6

Step 7

Step 8



OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

- Quickcheck the futureproofness of the business park

Step 3

- Engage the businesses into the process

Step 4

- Apply the REACT-tool to identify the sustainable energy solutions (options and benefits).

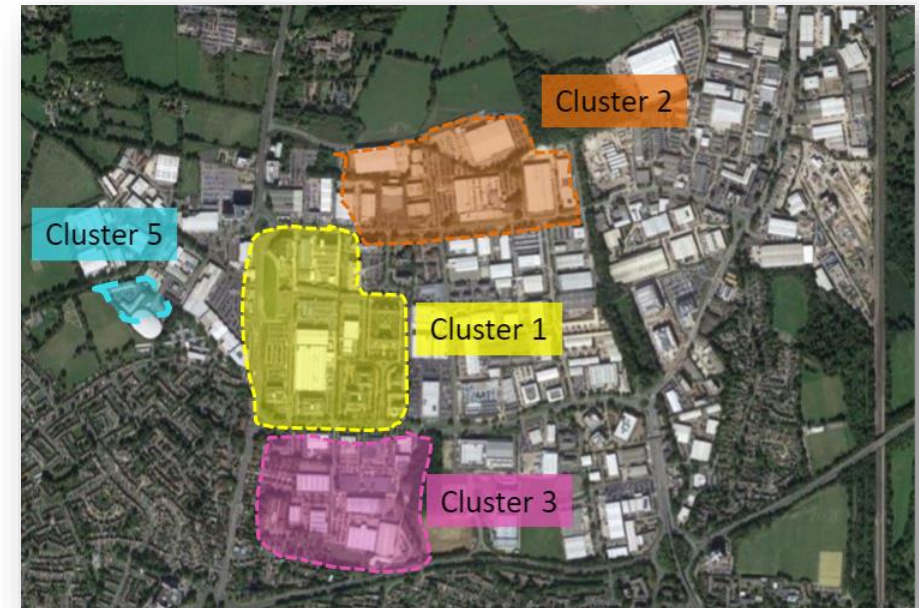
Step 5

- Persuade the SMEs with results of the REACT-tool and business cases.

Step 6

Step 7

Step 8



OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

- Quickcheck the futureproofness of the business park

Step 3

- Engage the businesses into the process

Step 4

- Apply the REACT-tool to identify the sustainable energy solutions (options and benefits).

Step 5

- Persuade the SMEs with results of the REACT-tool and business cases.

Step 6

- Match-make with solutions available on the market.

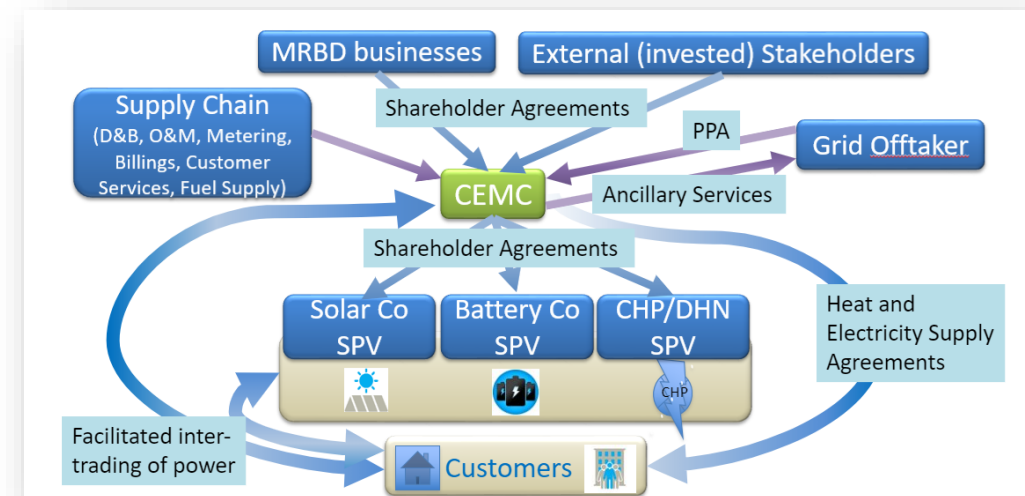
Step 7

Step 8



OUR STEP-BY-STEP GUIDEBOOK

- Step 1** • Start to facilitate the process: identify your role & design your process
- Step 2** • Quickcheck the futureproofness of the business park
- Step 3** • Engage the businesses into the process
- Step 4** • Apply the REACT-tool to identify the sustainable energy solutions (options and benefits).
- Step 5** • Persuade the SMEs with results of the REACT-tool and business cases.
- Step 6** • Match-make with solutions available on the market.
- Step 7** • Implement cooperation models and investment models
- Step 8**



OUR STEP-BY-STEP GUIDEBOOK

Step 1

- Start to facilitate the process: identify your role & design your process

Step 2

- Quickcheck the futureproofness of the business park

Step 3

- Engage the businesses into the process

Step 4

- Apply the REACT-tool to identify the sustainable energy solutions (options and benefits).

Step 5

- Persuade the SMEs with results of the REACT tool and business cases.

Step 6

- Match-make with solutions available on the market.

Step 7

- Implement cooperation models and investment models

Step 8

- Communicate to businesses and stakeholders



BE AWARE! IT'S A BUMPY ROAD...

Barriers

- Business engagement
- Time priorities – core business first
- Landlord/tenant relationships
- Knowledge of energy systems, distant decision making on energy
- Capital investment
- Grid connectivity

Risks

- Insufficient business support, board buy-in
- Local Authority / regional development agency interest
- Long financial commitments, debt funding, revenue uncertainty
- Planning permission
- Changes in regulation



... BUT THE DESTINATION IS... WOW!

Opportunities

- New income streams
- Improve energy security and costs
- Reduce CO₂ emissions
- Lower overheads
- Energy efficient workspace
- Active and healthy workforce
- Ease of meeting CSR requirements
- Retain value of business park
- Changes in regulation





Upcoming events

UPCOMING EVENTS

Regional seminars

- Autumn 2020
 - 4 regions (NL, BE, FR, UK)
 - Lessons learned from BISEPS living labs
 - Step-by-step guidebook
 - Training sessions REACT tool

Final conference

- Date and agenda to be confirmed

Stay tuned!

- Check www.biseps.eu and subscribe to our newsletter

Questions?

(and answers, of course!)

Thank you!