



BISEPS

empower carbon reduction in business

Deliverable: 2.3.2: Recommendations on the process of developing business cases

Deliverable: 2.4.1: Recommendations on organizing unburdening trajectories

Deliverable: 2.5.2: Recommendations on how to enable businesses to invest in sustainable energy

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1. Introduction

This report combines recommendations from 3 deliverables in WP2 and brings together the experiences from the partners gained through the living labs. These recommendations help anyone who wants to support businesses in the energy transition.

The targeted organisations for these deliverables are business park developers and managers and local authorities.

There can be quite some overlap of recommendations between the 3 deliverables. That is why the partnership decided to put them together in one report.

The partnership also focused on social/organizational recommendations as this is the core of the project. Partners want to facilitate the take-up of sustainable energy by companies and want to show through these recommendations, the process they went through and share their experiences with anyone else who wants to facilitate the process.

Within the project, the REACT-tool was developed. This tool supports the facilitation process by giving first insights in the potential sustainable energy cases. The tool can be found on the BISEPS website: www.biseps.eu.

Hereafter a short description of each deliverable.

D2.3.2: Recommendations on the process of developing living labs

All partners defined a living lab and developed renewable energy business cases together with the companies. These recommendations share the knowledge on do's and don'ts in the process of developing a business case with other organisations wanting to investigate a business case.

D2.4.1: Recommendations on organizing unburdening trajectories

All partners organized the support to businesses to move from business case towards realization of an energy project. This is also an overview of do's and don'ts that facilitators can use when wanting to support businesses in going from a business case to a realized project.

D2.5.2: Recommendations on how to enable businesses to invest in sustainable energy

These recommendations give insight in how to organize and facilitate processes to enable businesses to invest in sustainable energy. Examples are:

- Define, select and demarcate a living lab;
- Create a step-by-step action plan;
- Involve and motivate businesses;
- Mapping data, needs, ambitions, options, barriers and drivers;
- Application of the REACT-tool (tool made by UGent within the framework of the project);
- Feasibility studies, business cases and unburdening trajectories;
- Quadruple helix cooperation.

2. Recommendations from the living labs

Introduction

The BISEPS partners worked together in 6 living labs:

- Business park Manor Royal (West Sussex County Council)
- Mid West Flanders (POM West Flanders & WVI)
- South West Flanders (POM West Flanders & Leiedal)
- The business parks in Breda (City of Breda)
- Business park Loos-en-Gohelle (CD2E)
- Business park Ravenne-Les-Francis (MEL)

Hereafter you find a summary of the partners' experiences through a set of recommendations.

Social & organizational recommendations

Have a plan

Have a clear project plan, with goals and steps, and activities to achieve the goals. Whether businesses choose to work collaboratively or individually, there are financial and social benefits. A plan is needed to be able to show these benefits.

Involve all potential stakeholders

Distribution grid operators: they know what is allowed and what not. They can help with the data they dispose of to map the grid, the smart meters, the transformer station.

The companies: they have to know and accept the business park strategy as soon as possible. The best way is to work with a small group of convinced companies who can push the others.

Local authorities: it is important to involve them from the beginning so that they support the strategy, or do not block it.

Retain data about the business parks

It is important to base the plan on the available data of a business park: financial/economic data but also energy use, organizational, social, spatial, environmental, ... data. Use the REACT-tool to gather the data and to see what kind of sustainable energy scenario would work best for the business park.

Start on a business park with a business park management or a BID-structure

The business park manager knows the companies and contact persons on the business park. The business park management meetings can be used to introduce the sustainable energy theme and the project / living lab, one would like to start.

Use existing co-operations on the business park and support and strengthen them with information and essential partners (e.g. energy companies, grid owners, financial bodies, ...).

Connect demand and supply within existing cooperation structures and support their cooperation.

Start on a business park with companies with different kind of activities

Companies with different activities (no competition) are more likely to share sustainable energy. If you have the choice between different business parks, choose the multi-activity one to start with and work with the more difficult business parks, once the experience is build.

Organise networking events

Organise these events around topics that are of interest to the companies (practical) and also dare to introduce sustainable energy through these practical topics. It's good that the event takes place at one of the businesses on the business park. Companies are more inclined to join an event organized in a neighbouring company as they are interested to get to know their neighbour.

Understand the company's drivers

A company can choose for sustainable energy not only for financial reasons, other reasons, like energy prices, green image, customers' requests, can be as important. Some large companies request their suppliers to use more sustainable processes or materials.

Find ambassadors

The facilitator's initiative is more successful if initiated by one or more businesses on a business park. Other companies follow and join in when they know the initiative comes from another company that acts as the leading company sees enough financial benefit and/or the project supports the image and long term ambitions of the company.

Be well prepared: contact the right person

Don't always talk with only the technical expert. Also try to see the CEO, CFO or the head of purchasing department. The technical experts don't decide on their own.

Get engaged

Engage with businesses: meet them in person, talk to them, get them interested, show them examples. Let them know the benefits (energy security, cheaper energy, carbon reductions, improved air quality) and risks (long financial commitment, planning permissions, changes in regulations). To overcome the risks, it is essential to engage early with the businesses. The REACT-tool, developed by the BISEPS-partners, supports in showing a basic feasibility that sustainable energy is likely to be viable. In case the company is a tenant, also engage with the landlords and property agents.

Develop a good business case – make an offer they can't refuse – in cooperation with a third party

Local / regional governments don't have enough capacity and expertise to develop a business case for renewable energy projects. Therefore, use a consultancy company with a lot of experience in the field.

Feasibility studies are important for businesses to understand the potential benefits prior to undertaking a business case. Accurate actual energy data is essential in producing a realistic feasibility study and business case.

Make a contract

When developing the business case, also think of developing a contract between the parties who will invest in the project. Have the contract made by a legal office. Such a contract is necessary for a good cooperation between the involved investors / companies and a clear understanding of the agreements between the parties. If problems occur during the realization and / or de exploitation of the infrastructure, the contract is the document that clarifies how to deal with them.

Unburden the companies

Energy is not part of the core business of companies what implicates that they don't want to spend capacity nor money in a business case with e.g. other companies. Unburdening the companies with legal and technical advice, helps to get business cases developed. E.g. a common hurdle when evaluating a PV project, is the lack of knowledge about the roof stability. Companies don't know who to ask to evaluate the stability of their roof. Unburdening means here that the facilitator consults different engineering offices to perform the stability analysis.

Search for investors

For larger scale sustainable energy projects like e.g. a heat network, companies cannot invest themselves in the infrastructure. The realization and exploitation needs to be done by a third party investor. Once a good business case is ready, you need to get in touch with potential investors who will take over the project for further development.

Install a One-Stop-Shop

Have a single point of contact for sustainable energy across the business park. A dedicated person working towards sustainable energy for all businesses, helps to get the message across that the business park takes the topic serious. Working collaboratively saves money on procurement and installation. The installations can be centrally managed to minimize disruption by e.g. road closures.

Financial / economic recommendations

Find the revenue model

Use the REACT-tool to find the potential revenue model of a cooperation approach. An existing business park management structure and/or BID (business improvement district) can be used to develop the business case around this revenue model.

Structure the business case

For complex business cases (e.g. heat network) when one need a lot of information from the involved companies, it is advised to make a feasibility in different phases. you can start with a first indication of

the technical and legal feasibility based on a limited set of data. When this first feasibility is positive, a more detailed business case can be worked out. Another advantage of splitting the business case, is that you can inform the businesses in between the 2 phases making the time-consuming process shorter in their view.

Fine-tune the business case

Once a consultancy office made a business case and a legal contract, the business case needs fine-tuning. In business cases between 2 or more companies, it is advised that the companies themselves take care of this, in most cases, they prefer to do it on their own. The consultancy office must provide the necessary tools to the companies to do the fine-tuning (e.g. a calculation model).

Secure the business case

Secure the business case and bring it to the companies in a positive way to find the front-runner companies who want to invest and can convince others to participate.

Support co-operations by making action plans that lead to business cases and support the cooperating businesses with advice (organizational/spatial/...) in performance / roll-out.

Financial requirements for PV systems

- A large degree of auto-consumption is needed
- In case of collective projects, the project is more interesting in case the companies have complementary profiles
- The higher the electricity price, the faster the payback time (SME's tend to have higher prices)
- Higher electricity consumption in summer (e.g. cooled warehouses).
- PV systems usually have a too long payback time: a third party investor can be the solution. A project size of 250 kWp is already found interesting to finance the project.

Financial requirements for wind turbines (> 1 MW)

- Own permitting, own investment : the largest return can be generated (IRR : 10-20% in function of degree of auto consumption)
- Own permitting, third party investment : the permit can be sold (150 Euro/kW), lease of land (approx. 25.000 euro/turbine) and electricity can be bought at a reduced tariff (usually 15-20% cheaper)
- Third party project : lease of land (approx. 25.000 euro/turbine) and electricity can be bought at a reduced tariff (usually 15-20% cheaper)

Spatial recommendations

Involve the necessary authorities

When de realization of a business case requires the authorization of a public authority, it is important to involve that authority from the start of the development of the business case. The authority often has climate goals to reach (e.g. Covenant of Mayors): a business case focusing on the production of

sustainable energy can be of great interest for them. And possibly the public authority uses the case as an example and communicates about it, being beneficial for the company and the public authority.

Apply spatial rules in favour of sustainable energy

As the local authority approves the planning applications, the local planner can double check the developers submission (by e.g. using the REACT-tool) or suggest changes to the location of the businesses to increase opportunities for sharing/trading energy. E.g. for PV company roofs have to be south exposed or flat. They can be exposed south east and south west to have a flatter profile along the day and closer to the consumption profile.

Technical recommendations

Think out of the box

Look at other technical solutions than the usual ones. It can lead to a business case with a better ROI (Return on Investment) being more profitable for the companies. E.g. a heat network fed by a CHP can require the CHP to run more hours and an installation of a buffer tank. In the case studied in Roeselare (Living Lab Mid West Flanders) a steam network could be more profitable than a heat network.

Technical requirements for PV

The company roofs must have enough bearing capacity and cannot contain asbestos.

Technical requirements for heat networks

As a rule of thumb an interesting district heating project can occur there where a demand of at least 3 GWh per year and per kilometre can be generated. In general, this figure can be reached there where:

- A continuous heat source can deliver heat to residential or public buildings in a highly urbanised region or in case the distance between the heat source and the users is very limited
- A continuous heat source can deliver heat to an industrial heat consumer for an industrial process for more than 6000 h/y and located at a reasonable distance

3. Do's & Don'ts in unburdening

Organisational & social aspects

Do's

- **Organise a kick-off meeting** to create a collective approach. After the kick-off, it is important to regularly plan update meetings to keep a strong collective co-construction. you have to find the balance between keeping the companies updated and not wasting their time. The best way to engage the companies is when a small group of companies are the 'locomotive' of the whole group.
- **Use the REACT-tool** to show potential synergies and their benefits for the companies on business parks. Analyse the information flows, the actors, the energy flows and potentials to find these synergies.
- **Have a plan:** make a simple step-by-step plan to unburden the businesses. Use therefor e.g. the step-by-step handbook the BISEPS-partners made. This can be found on the BISEPS-website: <http://www.biseps.eu>.
- **Provide adequate advice/offer a full package** of legal, administrative, technical, ... advice so that companies 'only' have to make time to develop the project. One has to find the balance between unburdening and full support (e.g. financial unburdening or doing all the work). The companies have to be engaged as a self-sufficient business park is the long term goal. Show the financial return or when payback times are too long for companies (e.g. heat networks), work with a third party willing to take longer payback times.
- **Show concrete examples:** use the BISEPS living lab results in each country – they are on the website: <http://www.biseps.eu/>
- **Share contact details of businesses engaged in a similar process:** companies talking to each other about their engagement concerning sustainable energy, is far more powerful than authorities and/or experts telling them what to do. Create alliances of companies with corresponding goals, interests.
- **Make intention agreements between the different partners:** during long lasting projects like e.g. heat networks, companies or organisations can lose their interest in the project or become less involved or interested. By signing an intention agreement, the willingness to cooperate is made clear. When problems occur, the agreement is used to find solutions.
- **Enhance social acceptance:** this can be done by involving the local residents in a cooperation around the sustainable energy project. Social acceptance can be created by giving local residents the possibility to invest in the project and have an advantage from the project's benefits. A good way to do so, is to create a cooperative structure where local residents are one of the partners. The structure also signs the intention agreement if it exists.
- **Create the possibility for businesses to work together:** this could be done by initiating and managing a business-led energy community or through a One-Stop-Shop and/or a business park management association or BID.

Don'ts

- **Don't send e-mails to get in touch with the companies:** they remain unanswered. For a high success rate, it is necessary to contact the companies by phone or in person. Be clear about your goals and what is in it for them.
- **Don't be too complicated in the beginning:** the risk is to discourage and to lose some companies at the very beginning of the project. Nevertheless, companies have to be aware that this kind of project needs time and investment. It is important to be very clear and to find the balance.
- **Don't offer a full support:** companies have to engage within the whole process. Sustainable energy has to become their engagement. A full support would lower their engagements as they don't have to commit to anything (only pay the bills).
- **Don't start the infrastructure works without a legal contract:** in case an energy exchange is set-up between 2 companies without a legal contract or a third party in between, you cannot influence the parties anymore as you are not aware of the different agreements and / or problems that occurred in the past. In this way, it is very difficult to give neutral advice and to find solutions for upcoming problems.

Financial aspects

Do's

- **Help companies to find third party investors:** companies want to invest in their core business and energy is of less importance. Another aspect is that companies only invest in projects with preferably a payback time of less than 3 years. Most of the sustainable energy business cases have a payback time of more than 7 years.
- **Help companies to compare price offers from contractors:** a consultancy office can be assigned to compare offers by ranking the offers following positive and negative aspects of their offer. The final choice is with the investing company.
- **Make it easy:** make a business case wherein boards (management, governance) easily and quickly see the benefits.
- **Develop sustainable business cases** for the maximum achievable energy transition through alliances of actors. The challenge is to create business cases where 'the collective' has the benefits and developers are hired for their services. Business improvement districts or other business park management structures can offer a demand platform to negotiate with the suppliers to make collective plans feasible. The power of 'the collective' develops integrated solutions.

Don'ts

- **Don't make the final choice of contractor** (instead of the investing company): one can help the company in comparing the offers, but the choice of contractor needs to be the choice of the investing company.

Technical aspects

Do's

- **Provide adequate advice:** in case of e.g. PV, unburden companies in finding a good engineering office to measure the roof stability.

4. How to organize and facilitate processes to enable businesses to invest in sustainable energy?

This is a summary of the recommendations (chapter 2) and do's and don'ts (chapter 3) of this report.

First of all, it is important to select and define a living lab. Organisations like WVI, Leiedal, POM West Flanders, business park management organisations do this in close cooperation with the local authorities they work for. Criteria where the choice can be based upon are:

- Energy use & production;
- Existence of a business park management organisation or not;
- Geographical scope;
- Known core business of the companies;
- Known front runners;
- ...

In UK and The Netherlands, a business park governed by a BID (Business Improvement District), is a very good choice of living lab as the businesses already know each other and are used to work collaboratively for other topics.

Once the living lab is defined, a step-by-step action plan must be made. This plan includes all aspects of the facilitation process from the very first beginning. The BISEPS partnership made a step-by-step handbook to help in this.

Now it is time to involve and motivate the companies. This can be done by showing them what is in it for them:

- Reduction of energy costs through the business case;
- Green image;
- Reduction of carbon footprint;
- Frontrunner image;
- Cooperation with other businesses, networking;
- ...

Also use the REACT-tool developed by UGent and the partners of the BISEPS-project. This tool gives a first insight on what is possible within the living lab, on individual basis and/or collectively. Based on these insights, further studies can be executed.

To be able to use the REACT-tool, data needs to be gathered: energy data (how much energy do the companies use and produce) but also their needs and ambitions.

When talking to companies, they also need to be made aware of the possible barriers and how you can help them to overcome these. Potential barriers are:

- Technical feasibility through a feasibility study (e.g. roof stability for PV);
- Legal concerns can be overcome through legal advice;
- Safety concerns like the wrong perception of PV and fire;

- Investment costs concerns can be dealt with by showing the possible investment models and a financial feasibility study.

As a very good example you find hereby the living lab of Breda where a Green Deal was set-up. The philosophy is to convert users (companies), owners of the business park and the supply side of carbon reduction (advisors and sellers) from being traditionally considered as observers of what is going on in the public debate about carbon reduction or solely acting as advisors or sellers of technical solutions, to get them into value creation of emerging ideas on the carbon reduction and green energy production, using a co-operative approach such as smart grid solutions. These stakeholders are not used to think in a collaborative way where everyone can take profit from each other's activity. The city of Breda has supported the living lab for 3 years to find and work on breakthrough scenarios. The living lab was used to experience and refine new policies in real-life scenarios and to facilitate and implement new co-operations on business parks concerning energy savings and sustainable energy production.

In the living labs the following steps were performed:

- Making overviews of energy data per business park and giving information about the goals the local authority want to achieve;
- Stimulating PV on the roofs by facilitating the process to get funding;
- Facilitating the companies through 'the climate route' to save energy on their plants;
- Making an using a tool to show PV business cases;
- Making a bench mark for energy labels for offices;
- Bringing the energy suppliers together and facilitating the cooperation with the energy users;
- Bringing the energy users together and stimulating them to cooperate in the energy transition.

The Breda breakthrough scenario is that the city combined the energy supply and demand side, advisors, financiers and the government in a Green Deal where Platform BV Breda (a business park management structure) facilitated the quadruple helix cooperation in the field of sustainable energy. The platform will start a 'Renewable Energy Community' once the European directive is translated in national law.