GENERAL INFORMATION

PETUS description of tool in use	
Name of the case	E.C.U.B. project : rehabilitation of an old veterinary surgeon school into an urban "Eco-Centre"
Name of the tool	A set of tools were used: ❶ T-RNSYS (energy management); ❷ Raw materials list (environment friendly); ❸ P.R.A.S. (Regional Ground Assignment Plan of Brussels' Capital Region); ❹ H.Q.E. (self-made adapted version) ❺ B.R.E.E.A.M. (self-made adapted version); ❻ Socio-town-planning analysis; **In addition to the above tools, the following processes assist with the decision making process:** ● Financial deal; ● Town-Planning license; ● Local social associations and authorities brain-storming; ● District inhabitants' public debates and enquiries
Country	Belgium
City / region Total area (km2) Population Density (people/km2)	Brussels' Capital Region (19 municipalities) 162km2 992.041 (9,58% of the Belgian population) 6123
Tool user's profile a. Organization name (municipality, NGO, national or regional department, company, etc.) b. Field of activity c. Detailed contact/feedback (project website, e-mail, address, tel., fax)	In this case, there are 3 main users of different tools. **ARTIM**, **a.** ARTIM is a private agency **b.** Real estate project developer, architecture. The owner of a part of the site, at the beginning of the project. **c**. J-M Ghislain: +32 (0)475 82.62.26 ; Dominique Dossogne: +32 (0)2 543.06.53 **IBGE-BIM** **a.** IBGE is the Brussels Institute for Management of the Environment (Regional department). **b.** Management of the Environment and Sustainable development of Brussels' capital region. Public partner that supported this ECUB project. **c.** IBGE-BIM Gulledelle 100, 1200 Bruxelles, Belgium http://www.ibgebim.be/ Service "Partnership Eco-site, Eco-management & Eco-building" • Vincent CARTON • manager • vcr@ibgebim.be •+32 (0)2 775 78 75 • Virginie LAMBERT• eco-building •+32 (0)2 775 78 25 • Rachel RUBERT • REVER project (green infrastructure) • +32 (0)2 775 78 48 **Anderlecht municipality** a. Anderlecht Town-planning department. Anderlecht is the municipality (of Brussels' capital Region) that includes the Cureghem district. b. In this case, it's the municipality's town-planning services that deliver town-planning licences. c. Didier Van Ingelgem, Town-planning department principal private secretary.

Reviewer, date	Michaël Royer (September 2003), Veronica Cremasco(September 2004)

Short description of the case
abstract up to 300 words

*In Brussels, a veterinary surgeon school inaugurated in 1910 (20 buildings surrounded by green areas), was left in a neglected state since 1991. In 1998, a private agency got interested in the site, its purchase and development ARTIM agency was created to propose a project for the whole site's reassignment, park and buildings. This project called ECUB was located in the Cureghem district whose image is deeply marked by industries departure and urban decline. The IBGE-BIM (Brussels Institute for Management of the Environment) got involved in this project and deliberated to transfer their offices on the site. A public and private partnership started then between IBGE-BIM and ARTIM for the development of the ECUB project as an Eco-centre**

From 1998 to 2002, the concept was investigated. ARTIM made many preliminaries contacts and became aware of regulations and sustainable concepts. The IBGE-BIM stressed on inter-connections with the social context and the management of green areas. Progressively, the 2 partners used various tools that helped the conception stage clarifying some goals and finding parts of the solution.

In 2000, an architecture competition was organised and tools like HQE and BREEAM were used to assess different sustainable aspects shown off by the participants. The project was clarified and took the shape of an eco-centre with an holistic sustainability-program: reduce the energy consumption, build ecologically, mix functions, contribute to the neighbourhood revitalization, open green spaces to the public, preserve cultural heritage, etc.*

In November 2003, the project felled through because of real estate availability. ARTIM (the private partner) dismembered the site and sold it into pieces.
*Regards to this experience, the IBGE-BIM, the public partner of the project, specified conditions for such a pilot operation**. Mobility, building management, work organization, etc. are important parameters. The technical specifications of building and renovation projects must be rigorously guaranteed. The site must be open to inspection and all the choices must be substantiated. Public control over the project is essential and a simple lease does not provide that guarantee. Partnerships, including financial partnerships, that help to ensure this control, are being sought.*
An analysis of potential sites, alternatives to the surgeon school of Cureghem, is now underway.

** An eco-center's definition has been elaborated under the Ecolink project (described futher on)*
*** It is a pilot operation as many eco-sites are developed through Europe but rare are those located in city centre.*

Why was the case chosen? To which PETUS key-problem is this case study related?

Sector	Waste	Energy	Water	Transport	Green/blue	Building & Land Use
						X

Scale of project	Component	Building	Neighbourhood	City	Region
		X	**X**		

Status of project	Starting up	Ongoing	Finished	Start date	End date (exp.)
	1998		2003 (felled through)		

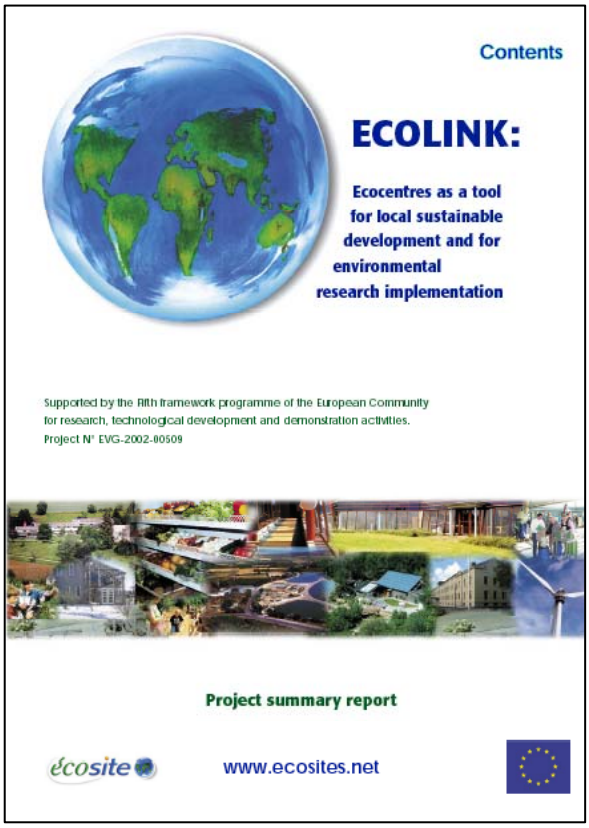
Key words

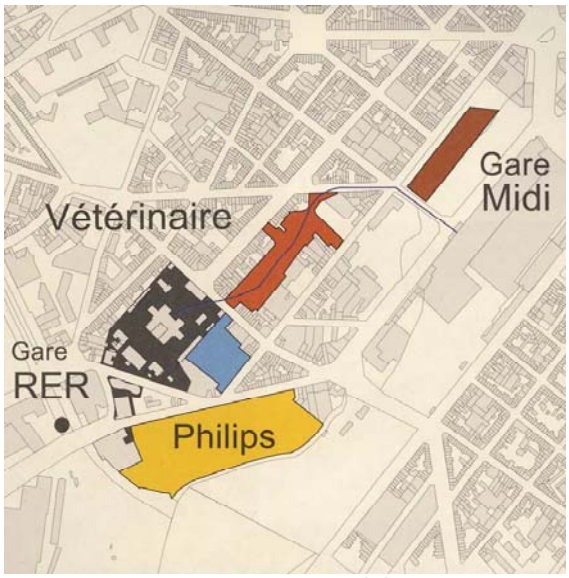
eco-site, regeneration, renovation, urban project, real estate

Project a. Object (building, city park, wind farm, etc.) b. Type of activity (regeneration, renovation, new development, etc.) c. Type of product (plan, scheme, design project, etc.)	a. real estate, urban project, eco-building, eco-centre, eco-site. b. regeneration, renovation c. design project, architectural project
Tool a. Character (according to WP3final0704.doc) b. Benchmarks (qualitative or quantitative) c. Availability (paid/ free)	a. calculation tool, checklist, guidelines, brain-storming, public debates b. Quantitative; qualitative c. Some are free, other not. For some, self-made versions

	have been developed.
Decision-making process a. Stage of the tool implementation (preliminary, midterm, etc.) b. Level (political, technical, etc.) c. Public participation	a. Preliminary studies, inception, design assessment b. Technical and political c. Public participation
Other *(optional, if needed)*	

DETAILED INFORMATION

A. Detailed description of project and tool	
1. Description of context (existing strategies, laws, policy, action plans, etc.): EU, national, regional, municipal  *European Project ECOLINK, summary report, cover page.*	At the beginning of the project in 1998-1999, the general context is the **promotion of sustainable development at European but also national and regional levels**. The developer (ARTIM) got influenced. Nevertheless, they didn't have any concrete text of references in mind when they launched the project. The Brussels Capital Region's **promotion of sustainable development** and particularly the support of the IBGE-BIM (Brussels Institute for Management of the Environment) enhance the development of the project in a sustainable way. In 1998-1999, the general context appears favourable to sustainable development but not constraining. Later during the investigation of the ECUB project, IBGE-BIM organized a conference on **Ecosites or Eco-Centres** and took an active part in the **Ecolink European project**. In June 2002 IBGE-BIM, in cooperation with Euro-MP Yves Pietrasanta, organized a conference on Ecosites or Eco-Centres at Brussels, bringing together more than 150 people from the four corners of Europe, Asia and United States. *"Ten years after the Rio Summit, although sustainable development is nearly universally recognized as essential, the move from theory to practice appears to have fallen short. One of the concrete and practical manifestations of the concept is probably that of the Ecosites or Eco-Centres."* http://www.ibgebim.be/english/contenu/content.asp?ref=1789&Highlight=%20Cureghem The conference was the setting for contacts that will be the basis for a partnership and networking of the heads of the various ecosites. In 2003, the networking of European ecosites continued and was formalized under the Ecolink European project and its four practical workshops.
2. Description of project a. Background (What caused the initiation of the project?; What was the problem? Who initiated the project?); b. Objectives/aims (sustainability statement – what issues of sustainability were attacked); c. Time interval and stages of project realization; d. Financing – amount, sources, institutions involved, partnerships, levels. e. Other sectors involved in the particular project/problem (conflicts and/or links)	**a.** A homogeneous unit of 20 buildings in Brussels, which was a veterinary surgeon school inaugurated in 1910, was left in a neglected state since the departure of the school in 1991. In 1998, a private agency got interested in the site to establish its offices in it. ARTIM agency was created, aware of the need of a global project proposal for the whole site's reassignment, park and buildings. The ECUB project started. The project is located in the Cureghem district whose image is deeply marked by industries departure and urban decline.



Localisation of the ECUB project (Vétérinaire) in the Cureghem district, Brussels

Picture of the site, Old veterinary school of Cureghem

The project developed as an "Eco-centre" that will combine different functions and that will contribute to the neighbourhood revitalization. The IBGE-BIM (Brussels Institute for Management of the Environment) got involved in it and deliberated the transfer of their offices on the site.

If the concern was mainly environmental (eco-building) the program was progressively specified into a more holistic and sustainable one: reduce the energy consumption, mix functions, open green spaces to the public, preserve cultural heritage, etc…

b. At the very beginning, the project has essentially a patrimonial and financial purpose. An environmental aim was quickly added. Progressively, economic and mainly social goals were included. The project evolved as a rehabilitation action that could spread its influence and revitalize the neighbourhood. Links with the context were analysed more in depth.

After a long period of inception, project's goals have been summed in 10 points. Some of these are in between quantitative and qualitative.

① Eco-management
② Energy consumption decrease
③ Eco-construction principles
④ Insertion of the project in its social context
⑤ Implication of "Social integration companies" in the project.
⑥ Public information
⑦ Project's financial viability.
⑧ Formalization of the *Brussels Corporate Eco-dynamism Label and Charter* (see Description of tool, other tools implemented)
⑨ Management of the green areas surrounding the buildings, using them as an urban park reinforcing the existing Brussels green network.
⑩ Preservation and valorisation of the cultural architectural heritage of the site.

These goals are detailed below, see "Tool in the decision-making process"

c. From 1998 to 2002, the concept was investigated. ARTIM made many preliminaries contacts with authorities in charge of the different aspects of the project. They received advices and became aware of regulations in force at the different levels (district, municipality, town, region,...).
Progressively, they discovered new tools that helped them at the conception/design stage clarifying goals and finding parts of the solution.
During this period, the IBGE-BIM, public partner of the project, stressed on inter-connections with the district and its social context as well as on the management of the green areas. Socio-town-planning analysis ❻ were developed to better understand the features and the role of the project in the particular social context of the Cureghem district.

In 2000, an architecture competition was organised for some buildings and green spaces. HQE ❹ and BREEAM ❺ were

General view of the ECUB project, master plan

used to assess different sustainable aspects shown off by the participants.

In 2002, the site development program was clarified.

In November 2003, the project felled through because the buildings were not available for an eco-site project any more: the site has been dismembered and sold at different private owners.

d. The private agency ARTIM was supposed to assume the project as *building owner and project developer:* they imagined the transformation of the site, searched investors and occupants for the different buildings.
ARTIM was also the *architectural coordinator* and set up an architectural competition for the different buildings and the park, and managed the different stages of the project. The agency also involved itself as *architect* for some buildings.

The IBGE-BIM worked in partnership with ARTIM on the project. They were aware of the need of an eco-centre in Brussels and they took over the cost of some studies.

The Anderlecht municipality gets interested in economical aspects: 'too much projects turn wrong because of bad financial management.' The municipality will give its official support to the project, when ARTIM will demonstrate the project's viability.

As the site contains a large park, the ECUB project could take part into the Brussels green network within the framework of the European project INTEREG. Opening the park to public could thus lead to an extra financial support for studies, etc.

But in November 2003, the project felled through, the site was dismembered and sold (private businesses). The managers of the IBGE-BIM, (public partner of the project), put in evidence the weak means of actions they have concerning the real estate availability. *Public control over the project is essential and a simple lease does not provide that guarantee. Partnerships, including financial partnerships, that help to ensure this control, are being sought.*

e. This project aims to approach different facets of sustainability. Different tools enable to investigate different aspects but the difficulty is to manage them as interconnections are complex.

For instance, energy challenges are conflicting with patrimonial conservation; the opening of the surrounding park to district's inhabitants is conflicting with businesses offices to be located in the buildings, etc.

3. Description of tool

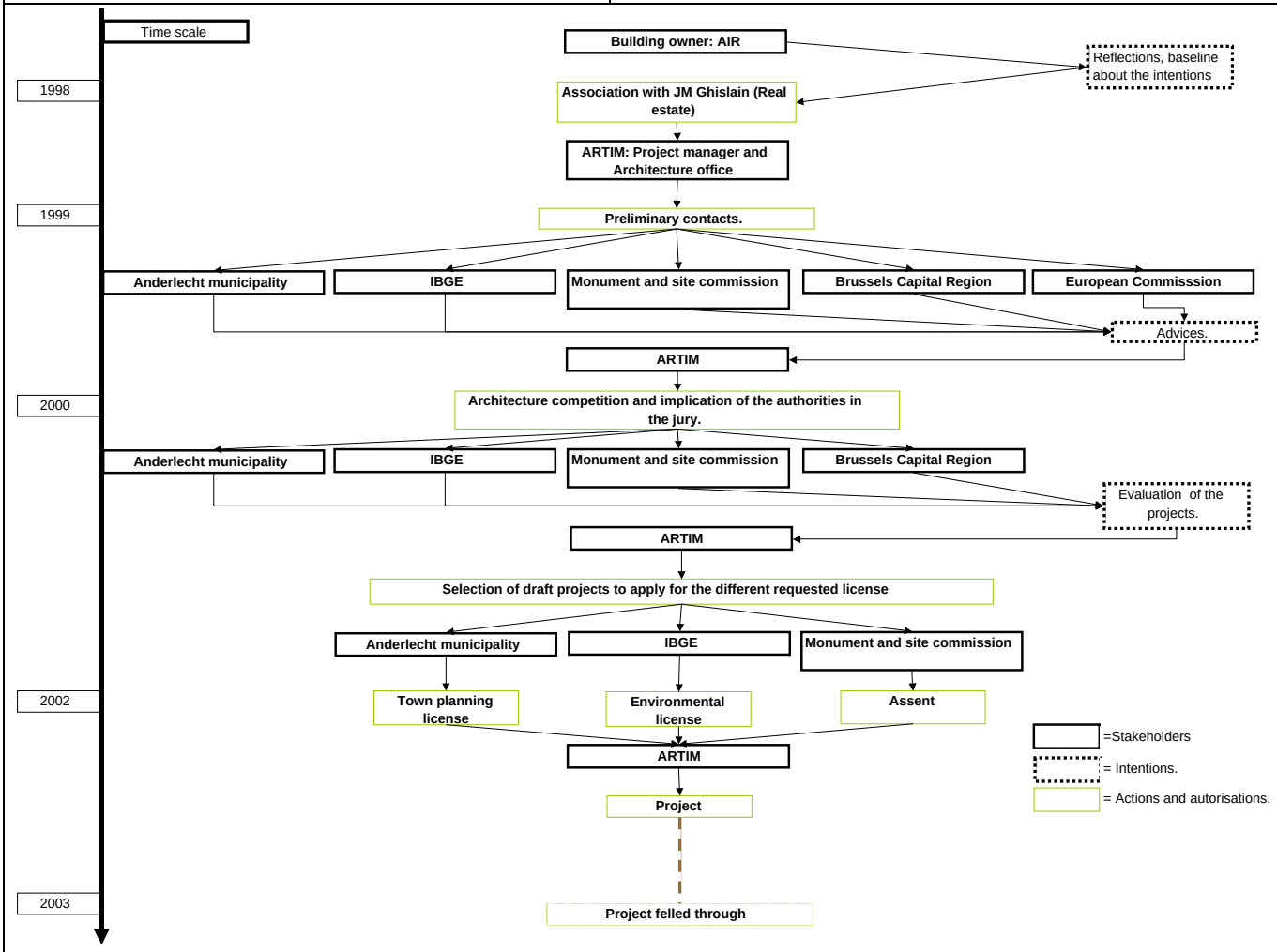
a. Character (according to WP3final0704.doc) - calculation tools, process tools, assessment methods, generic tools, simulation tools, guidelines, framework tools, schemes, indicators and monitoring, checklists, case-specific tools;
b. Availability of the tool (web-based / paper, paid / free, etc.)

a.
❶ T-RNSYS (energy management) calculation tool
❷ Raw materials list (materials classified according to environmental cost) checklist
❸ P.R.A.S. (Regional Ground Assignment Plan of Brussels' Capital Region); planning-map
❹ H.Q.E. (an adapted version was developed to avoid buying the official one) checklist, guidance

c. Based on existing tool or newly elaborated; d. Adaptation of the tool to the local context (are there local experts involved in tool's development?) e. Other tools implemented to support the project development	❺ B.R.E.E.A.M. (an adapted version was developed to avoid buying the official one) calculation tool ❻ Socio-town-planning analysis: case-specific tool **b.** ❸, ❻ The P.R.A.S. and the socio-town-planning analysis are free. Public authorities developed them. About the P.R.A.S., every project has to respect the assignment of ground given in it, depending on the zone where it is located. A socio-town planning has been developed by IBGE-BIM specifically for this project. ❶, ❷ Concerning the energy management and the raw material list, T-RNSYS and DBA associate two private companies have been respectively consulted. ❹, ❺ Concerning HQE and BREEAM, end-users did not plan this extra-cost, so they developed a more or less self-made version on the basis of the knowledge they achieved. **c.** All tools used are based on existing ones **d.** One partner, IBGE-BIM, particularly contributed to take specificities of the local context into account, notably via brainstorming and social analysis. Each end-users (either IBGE-BIM or ARTIM or Anderlecht Municipalities) mainly focused on their own fields of interest. **e.** In addition, the following processes assist with the decision making process: ● Financial deal; ● Town-Planning license; ● Local social associations and authorities brain-storming; ● District inhabitants' public debates and enquiries N.B.: In 2002, the ***Brussels Corporate Eco-dynamism Label and Charter*** was to be created by the IBGE-BIM. ECUB project has then been considered as a concrete application that would help the formalization of the Label and Charter, and vice versa the reflections about them could help the eco-management of the project. What are ***Brussels Corporate Eco-dynamism Label and Charter*** nowadays? The main purpose of the *Label and Charter* is the communication of efforts and good sustainable outcomes of businesses. They are voluntary agreements concluded between the IBGE-BIM and proactive businesses. The company undertakes to implement good eco-managerial practice progressively. The IBGE-BIM undertakes to make a series of supporting measures available to companies (training, information, etc.) and to publicize the results obtained. This flexible system consists of 3 levels of labelling. (http://www.abece.be/germaine/homee.htm)
B. Tool implementation	
1. Argumentation for choosing the tool a. What were the reasons for the implementation of the tool? (voluntary or requested by what local, national, etc regulation) b. Who took the initiative for choosing /elaboration	**a.** There are different reasons regarding the users concerned and the tools used. **ARTIM** (project developer)**:** ● ARTIM's motivation was an ecological/ environmental concern. The use of tools was first led by this policy.

the tool? c. What were the criteria for choosing the tool? d. Was there knowledge of other tools and were they considered?	Step by step, their perception progressively moved into a more holistic and sustainable view and they needed some referenced knowledge. • It's a way to fall under European standards to obtain funds and assistances. • Moreover, it constitutes an important selling and promotion argument. • They also mentioned brainstorming meetings help them to better understand the local context, and moreover to maximise the acceptance of the project. **IBGE-BIM** (public administration supporting the project)**:** • Give a significant support to the development of a sustainable project, as an Eco-centre in Brussels. • Promote a sustainable image of their institute, especially as they would like to transfer their offices on the site. • At that time, IBGE-BIM was trying to formalize *The Brussels Corporate Eco-dynamism Label and Charter (see description of tools),* the ECUB case was the occasion to test first developments. **Anderlecht municipality** (final decision-maker that will grant or not the town-planning license)**:** • The municipality gets interested in economic aspects and project's viability. They don't directly use financial tools but are interested in results. • The "ECUB project" could take part into the Brussels green network within the framework of the European project INTEREG. Consequently, they get interested in opening the park to public. • The only "tool" they really used is traditional "town-planning" license. **b.** Each of these 3 users has chosen the tools he used. **c.** Criteria are different regarding the users and the tools he makes use of. **ARTIM** used the ones they were aware of and that could help the inception of the project idea, particularly to find technical solutions. The cost was also a criterion (they developed a self-made version of HQE and BREEAM to avoid extra-expenditures). They were also invited to use those proposed by the IBGE-BIM. **IBGE-BIM** essentially used the tools developed by their own services. **Anderlecht Municipality** used the traditional legal references. **d.**
2. Barriers for the tool implementation What were the main problems in the tool implementation? (Regulation, information available, public awareness, lack of clear SD definitions and benchmarks, communication etc.)	The main problem was that tools used do not consider interconnections between the 3 different aspects of sustainability, sometimes conflicting. A tool helps to assess an idea and sometimes to find out a more sustainable solution but this solution can appear as not compatible with another sustainable challenge. For example: type of office activities planned on the site are

	not really compatible with the public use of the green areas around, social companies' workers do not always fit with non-traditional building practices, etc. Some tools (T-RNSYS, e.g.) require a professional experience and it then imposes an external consultant office and extra-cost. For 2 very well known tools, comments of end-users have been gathered here. They have not paid for the official version that would certainly influence their comments. **H.Q.E.:** This method focuses on the process and doesn't allow a quantitative assessment of the project. Nevertheless, it puts some important aspects of sustainability in evidence. It could be interesting to weight the different aspects considered. The assessment depends on the users' background. **BREEAM:** The credits attribution is judged not transparent enough, and the compensations between domains could be more clearly justified. A non-static method could be upgraded. The tool still mainly focuses on the environmental aspects. A general remark is that there is no tool dedicated to the following up of the project. The steps after design are neglected. The operation stage has never been investigated. End-users were interested in economical impacts on the surroundings, but they did not find tools considering them.
C. Influence of the tool on the decision-making process	
1. Description of the decision-making process/ procedures a. Stages b. Levels (political, technical, etc.) c. Sources of information used during the dmp; d. Who are the decision-makers? e. Who made the final decision for the project implementation? Was it political or technical decision?	**a.** In 1998, AIR bought the site and entered into partnership with JM Ghislain to create ARTIM. As they get interested in environmental aspects, they decided to add an "Eco-management", energy consumption and "Eco-construction" value to the project. In 1999, ARTIM made many preliminaries contacts with authorities in charge of different aspects of the project. During this period, the IBGE-BIM became a partner of the project to develop it as an Eco-centre where they could transfer their offices. At the end of 2000, an architecture competition was organised for some buildings and green spaces. During 2001 and 2002, project went on and ARTIM finalised itself the design of one building of the site. But in November 2003, the project came definitely to an end. The site was dismembered and sold. ⇨ SEE DIAGRAM BELOW **b.** In this case, different tools were used by different actors to assist the decision-making procedure from the inception of the project to design assessment. This procedure includes both political and technical decisions. (see diagram below) **c**. Some tools (and the knowledge they included) are used

	to assess the project technically; others are used to define objectives and to better take the local context into account.
	
	d. The 3 main decision-makers are the 3 stakeholders already identified : ARTIM (private developer), IBGE-BIM (public partner) and Anderlecht Municipality(public authority) **e.** In a way, Anderlecht Municipality will take the final decision as it will grant or not the town-planning license. Nevertheless, the town-planning license does not considered really sustainable goals. The development of the sustainable characteristics of the project depends more on the initiative of the developers (ARTIM) and its partner (IBGE-BIM).
2. Tool in decision-making process a. At what stage was the tool implemented? By whom? (experts, politicians, etc.) b. How did the tool output influence the process (added or skipped levels/stages in the existing decision-making process, etc.)? c. Quantitative goals or benchmarks defined? (If YES, which – and what were they compared to?) d. Was the tool used to support argumentations?	**a.** In 1998, ARTIM was created and the project started. As they get interested giving an *eco-building* value to the project. They have their first contact with tools but no real evaluation have been made at this time. In 1999, ARTIM made many preliminaries contacts with authorities in charge of different aspects of the project. They received advices, get aware of aspects to respect and regulations in force and sustainable concepts. Progressively, they discovered new tools that helped them at the conception/design stage clarifying goals and finding part of solution. During this period, the IBGE-BIM became a partner of the

	Eco-centre project. They stressed on the sustainable characteristics the project should have, promoting some tools (raw material list, etc.) and analysing more in depth the social connections between the project and the neighbourhood (their services developed a socio-town-planning analysis). In 2000, when the architecture competition was organised for some buildings and green spaces, they used tools (HQE, BREEAM) to assess different sustainable aspects shown off by the participants. During 2001 and 2002, ARTIM use of tools became more systematic. They applied them to finalise the design of their own building. In November 2003, the project came definitely to an end. **b**. As they got interested in sustainable tools very early in the process, tools influenced the **inception of project** idea and the **design stage** providing ARTIM with knowledge about sustainability: ⇨ Sometimes, it clarified first intentions and provided the program with new ideas. For example: many aspects of the park, the connections with the district and its inhabitants, etc. were discussed and adapted during the Social-town planning analysis. ⇨ Sometimes, tools gave practical answers to the developers' aims. For example: T-RNSYS simulations helped to develop an efficient heat management of the buildings. Tools have also been used to assist **design assessment** of projects ⇨ For example, during the architectural competition, assessments of projects have been made with H.Q.E. and B.R.E.E.A.M. ⇨Some tools are constrained by regulations in force and authorities would use them to assess the project and grant the corresponding license. For example, the PRAS is used to check if prescriptions on zones are respected. Brainstorming helped them to better understand the local context and moreover to maximise the acceptance of the project**.** **c.** After a long period of inception, project's goals have been summed in 10 points. Some of these goals are in between quantitative and qualitative. ① Eco-management. All the actions in the project may be thought in an "Ecological care" way. The main tool used is HQE ❹, as it focuses on the sustainability of the process. ② Energy consumption decrease. For an efficient management of the energy consumption, the main tools used were T-RNSYS❶ BREAM❺, they enable comparisons with European standards in force. ③ Application of Eco-construction principles. Criteria on materials and techniques to use have been defined;

	comparisons have been made with raw materials list defined at the European level (DBA associate study) ❷ ④ Insertion of the project in its social context (open the site to its immediate surroundings, mix functions, etc.). To better understand these objectives, a socio-town-planning analysis ❻ was developed by the IBGE-BIM. ⑤ Implication of "Social integration companies" in the project. It was an initiative of the IBGE-BIM. ⑥ Public information. Developers mentioned brainstorming help them to better understand the local context, and moreover to maximise the acceptance of the project. N.B.: For this kind of project, a public enquiry is mandatory. ⑦ Project 's financial viability. The financial outcomes are difficult to assess as ARTIM had to dismember the site and sold it. ⑧ Formalization of the *Brussels Corporate Eco-dynamism Label and Charter (see Description of tool, other tools implemented)*. This was not a goal defined for the project but an issue the IBGE-BIM was interested in. ⑨ Management of the green areas surrounding the buildings, using them as an urban park reinforcing the existing Brussels green network. This goal could not be assessed as the project felled through. ⑩ Preservation and valorisation of the cultural architectural heritage of the site. This is a qualitative goal including technical decisions that are supported by national rules and laws. **d.** At different steps of the decision making process, tools were used to support argumentation. Tools' influences are described in detail at the point b. We can nevertheless insist on some examples: ● Tools have been used to assist the **design assessment** stage. During the architectural competition, H.Q.E. and B.R.E.E.A.M were used to assess the projects and their different sustainable aspects shown off by the participants ● Some tools are constrained by regulations in force. Authorities use them to grant the corresponding license, and to argue their choice. For example, the PRAS is used to check if the prescriptions on defined zones are respected.
3. Transparency of decision-making process a. How was the information of the dmp disseminated? - directly (decision makers – public) or indirectly (decision makers - NGO, PR company, etc. - public); sources of dissemination used (mass media, internet, brochure, etc.) b. How was the public involved? c. Was there a public discussion over the project and at what stage of the project development?	**a.** Concerning the inception of the project and its design, brainstorming meetings were organised with local social associations and authorities. The communication was indirect: population did not directly participate to brainstorming as they were intended to be represented by associations and authorities. On another part, to communicate the outcomes of the project's design, district inhabitants' public debates (public enquiry) were organised (direct way) as they are legally mandatory in the planning license procedure.

	b. The public was not directly involved in the project elaboration as, during the design stage, brainstorming meetings were organised only with local social associations and authorities. After the design step, public debates were organised to discuss the outcomes of the project. Experts often consider these debates (legally mandatory) do not concretely involve the population, as it is already too late to change the main features of the project. These debates are used to communicate results and possibly modified details. Public involvement was not perceived as particularly satisfactory. **c.** See points a &b
D. Expert assessment/analysis/comment of the tool effectiveness	
1. Assessment by tool users a. Were there measurable improvements as a result of the tool implementation? If YES, what? If no: why not? b. Were there any spun-off's or unintended consequences? c. General view on the tool? Lessons learned? d. Potentials for further use of the tool? e. Will the actors recommend it or use it in other cases - why / why not?	**a.** They were improvements even if they are not all measurable ones. The **design of the project** has been improved. Tools opened new perspectives but also provided practical solutions, for instance, concerning alternative raw materials and their modus operandi. Valuable **reductions of consumption cost** have been assessed thanks to tool implementation. For example, the use of T-RNSYS enabled to reduce the energy consumption of the buildings. **Communication and information exchanges** between the different stakeholders were improved thanks to the use of tools, and the production of results that could be concretely discussed. For example, the socio-town planning analysis and public debates highlighted some important points to introduce to the project. **The decision-making process** was also improved as tools (HQE and BREEAM) provided an assessment method, during the architectural competition, to appreciate the sustainable characteristics of the projects. **b.** The IBGE-BIM mentioned that they sometimes don't appreciate how their studies are implemented just to give the project a good selling argument. ARTIM mentioned that all these efforts to make the project more sustainable could be completely useless as not compatible with the preservation and valorisation of architectural heritage. Even though, they did not find any method (for thermal design, use of alternative materials, etc) taking these requirements related to listed buildings into account. **c.** This project tries to approach the 3 different aspects of sustainability. Many tools are available to do so but the difficulty is more to understand the complex interconnections between aspects and to manage them. End-users did not find tools really helpful to consider conflicts and opportunities. During the project, sustainable "labels" as *Brussels Corporate Eco-dynamism Label* were awaited, as they seem

	to be a good selling argument. The project's economical impacts on the surroundings are deemed very important. They have not been approached. Thanks to the different tools used for the inception of the project, the initial environmental goal turned into a more complete sustainable one. Tools encouraged developers, made them aware of other social and economic values, clarify their goals and sometimes give them means to reach them. Experiences good and bad from the different actors: **ARTIM:** They quickly capitalise sustainability knowledge. The use of tools constitutes for them important selling, persuasion, and promotion arguments. One of the main outcomes was the reduction of consumption. **IBGE-BIM:** During the ECUB project, they enlarged their sustainability knowledge. They put in evidence the lack of references concerning the definition of the "impact area" to consider regards to the size of the project (social analysis are very linked with the project size and characteristics) **Anderlecht municipality:** They are vaguely interested in results. The only tool they used is traditional "town-planning" license **d.** The tools used in this case could be applied on any building-projects (rehabilitation, transformation or construction). Contextual data must be imported, of course. **e.** Stakeholders will recommend these tools, even if they are aware of useful adaptation and evolution to be done(see points a, b, c and d of this section)
2. Reviewer's assessment of the tool (usefulness, sustainability relevance, who are the actors excluded? etc.) Suggestions and needs for further development of the tool	In this project, stakeholders get a bit lost between all the tools available and the amount of parameters to consider. A clear procedure explaining the periods when tools have to be used and to investigate what, will be helpful. A clearer procedure would promote sustainability from the strategic stage to the technical one. Tools used in this case do not considered interconnections between the different aspects of the sustainability challenges, sometimes conflicting. Any assessment of the summed outcomes is provided, only disconnected problems are analysed. Some tools require a professional experience and it then imposes an external consultant office and extra-costs. To avoid this, users sometimes develop a "home-made" version which spirit could be far from the official one. The follow up of the project has never been considered, excepted indirectly via energy consumption costs. The operation stage represents 80% of the costs of buildings, the sustainable challenge is certainly also there.

E. Additional information on the case study available	
Websites	See here below …
References *concerning the case but also the key words or problem* (papers, articles, reports, laws, etc.)	● IBGE-BIM, Brussels Institute for Management of the Environment (regional department): http://www.ibgebim.be/ ● The Eco-centre in Brussels: http://www.ibgebim.be/english/contenu/content.asp?ref=1789&Highlight=%20Cureghem ● The International Eco-sites Portal, Summary brochures, full final report, etc. of the Eco-link European project are online: http://www.ecosites.net/ TOOLS ● HQE (Haute Qualité Environmentale) association. Presentation of tools, methods and objectives http://www.assohqe.org/ ● BREEAM Presentation of tools, methods and objectives http://www.breeam.org/
Other sources (Interviews, conferences, discussions, etc.)	Many interviews.
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