

CAMELIA – Concerted Action Multigeneration Energy (Acceptance in Case Studies)

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CAMELIA

Techno-economic impact and socio-economic acceptance (Work package 6)

Report on socio-economic acceptance regarding the case studies (Deliverable (6.3))

www.camelia-eu.com

Acceptance in Case Studies

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with Locally Integrated Applications

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1 Introduction

Socio-economic acceptance of a project is an important aspect to assure its sustainability. The objective of this report is to “evaluate specific case studies in different European regions regarding socio-economic acceptance.”¹

The report is part of the output, elaborated by the Concerted Action Multigeneration Energy Systems with Locally Integrated Applications (CAMELIA), which has been co-funded by European grants. A single work package within this action addresses “Techno-economic impact and socio-economic acceptance” (WP 6).

Four partners, PROFACTOR and STUDIA (both Austria), KTH (Sweden) and IER (Germany) set up the methodologies, and three further partners, IFTR PAS (Poland), URV (Spain) and CNAM (France) contributed information concerning specific cases, which have in-depth been studied, also regarding technology and environment aspects, in a complementary Work package “Case studies” (WP 7). STUDIA has been in charge to collect data provided by the partners, and to support interpretation of results.

We herewith thank external partners outside the CAMELIA partnership for contributing information concerning the cases studied.

The report first gives some definitions and methodological remarks (chapter 2), then describes four specific cases in different European regions regarding socio-economic acceptance and acceptance studies (chapter 3), then compares case studies and draws conclusions (chapter 4 and 5). The (empty) questionnaire applied to evaluate cases is appended.

**Many
contributed**

Wolfgang E. Baaske

¹ See: CAMELIA Annex I “Description of Work”, Objective 3 in Work package 6

2 Socio-economic acceptance: concept and methodology

Acceptance is the positive attitude of a client towards a product or service. Acceptance is on hand when needs are met, conflicts are sorted out, interests are balanced – and people get informed about this. The whole system must be considered. What does a local supply mean for the region, the municipality, the specific site? How does it affect existing and future supply chains? How will a farmer benefit maintaining his farm and upgrading his family income, when selling biogas? Which new and competitive projects could an eco-village create, a local mayor or a regional manager could add to his references? Will a house-wife or a hotel technician be satisfied with the convenience of passive-house architecture? Acceptance of polygeneration would not only mean to not oppose a new energy supply system, but to know it, to trust it, to desire it and to actively promote its dissemination.

What is socio-economic acceptance?

The applied methodology refers to Deliverable 6.1 “Methodologies for the evaluation of socio-economic acceptance”², which constitutes a previous output of Work package 6 “Techno-economic impact and socio-economic acceptance”. In that deliverable, several methodologies for proving socio-economic impacts have been described: Methods for evaluating impacts on business and economy, ecology and environment, social and immaterial criteria. Some methods of socio-economic evaluation have been described, especially:

Methods ...

- Interviews and questionnaires,
- Life cycle analysis, Externalities
- Cost-benefit analysis
- Quality Function Deployment
- PEST-analysis (politics, economy, social systems, and technology)
- Regional Input-Output-Analysis and general equilibrium models

Some of these methods are specific and focussed on well-defined indicators, others are capable to evaluate a broad range of criteria and thus are comprehensive. The question, which method is to be chosen, depends on customer demands. On the one hand, comprehensive methods (like interviews, quality function deployment and PEST-analysis) provide a holistic view of quality and build a basis for a sus-

² CAMELIA: Contribution to Deliverable 6.1, STUDIA report, July 14th 2006, Schlierbach.

tainable integration of technologies. On the other hand, specific methods like Life-cycle analysis or regional IO-analysis are able to answer specific questions on CO₂ reduced or employment created.

Applying such methods and regarding them as a part of a communication, can definitely enhance acceptance. Research on technical, environmental and socio-economic issues then becomes an element of a participatory societal process, and is – by itself – a method for finding better solutions, creating confidence and commitment.

**are part of
communication**

Which of these methods should be applied (or has been applied) for increasing acceptance for “Multigeneration Energy Systems with Locally Integrated Applications”? To answer this question, a survey has been carried out. The CAMELIA project team has been asking representatives of operating companies and experts to provide details on stakeholders, management and prospects.

For four case-studies, the handling of socio-economic acceptance has been studied. Case studies have been selected by the intention to cover a maximum of the geographical, economical and environmental diversity. Confined to four cases, it was not possible to be representative for Europe, but a diversity of approaches and environments has been assured. The selection has been discussed and decided within the CAMELIA management board, and arranged with the EC program’s officer.

**Case study
selection**

3 Case study results

3.1 Biomasse Linz

Project name: Biomasse KWK Linz FHKW Mitte (Biomass CHP Linz, Central District Cogeneration Plant)

Interviewee

Name: Johann Gimmelsberger
Role in the project: Project developer
Address: Wiener Straße 151, 4021 Linz
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Project environment

The plant is situated within the urban area of the city of Linz, the capital of Upper Austria. At the beginning of 2007 Linz comprised a population of 189 343 living in 106 042 residential units.³

The plant adjoins both to the highly dense populated city centre and an extended industrial area, dominated by the traditional steel industry (VOEST). The plant has direct access to the Danube harbour, constituting a clear advantage for cheap supply with biomass. At the same time, the city of Linz borders to the forests of Mühlviertel, and is not far from extensive forests of Southern Bohemia (Jihozápad, Czech republic) and the Northern Alps.

The municipality of Linz is narrowly tied to its main energy service provider Linz AG. In fact, Linz owns Linz AG, and Linz AG provides heating services for many municipal buildings.

The project affects about 20 000 inhabitants living within the neighbourhood, in 12 000 apartments that Linz AG supplies with heat and power. In addition, the plant supplies industrial and municipal buildings, belonging to many different owners.

Location:
Dense populated
area, resources
within reach

³ See: www.linz.at

Acceptance status

Neighbours and end-users

“Building inhabitants often express appreciation for now also being supplied by renewables”, says Johann Gimmelsberger, project developer at Linz AG. Economic drivers for end-users’ acceptance have been, that for tenants, the project did not increase rental fees. It did not decrease tenants’ energy bills directly, just indirectly by the Austrian eco-tax, and only significantly less than 1%.

**Inhabitants
express
appreciation**

Owners

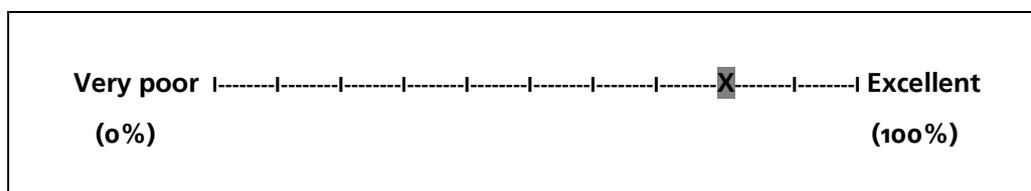
Regional politicians and municipal officers have been affected quite positively by the plant. Linz became the first Austrian provincial capital provided by biomass. That constituted an important political benefit. Driving factors influencing the decision have been the image to be a pioneer and the general public discussion concerning sustainability and climatic change, as well the new arising awareness concerning Europe’s resource dependencies. From a business point of view, public subsidies e.g. the eco-energy promotion scheme and the emission trade scheme, caused a short pay-back of estimated seven years. The project had advantages to the staff of Linz AG, especially to new recruited personnel.

Political benefit

Local business

Also local business entrepreneurs gain economic advantages, e.g. association of small-scale forest owners, saw mills and wood providers. Even the tourism sector would be affected. Gimmelsberger: “There are already tourists’ and experts’ excursions coming to visit the site.”

Acceptance of Biomasse Linz



Source: Interviewee

Overall, ...

the acceptance of the project was rated 80 from 100 points, in comparison with a best project with respect to acceptance and local integration, i.e. a project yielding the maximum out of the budget. From an acceptance point of view, the “plant would assumingly be

better accepted (in public opinion), when based on photo voltaics instead of wood" (Gimmelsberger).

Managing acceptance

During construction there have been noise and dust disturbances, during operation delivery and traffic disturbances. How did the project manage with acceptance problems? Stakeholders have been informed in advance: by an "open house", a political event, an opening event. A comprehensive brochure has been produced.

The internal decision has been strongly affected by advance information and discussions with external opinion leaders and decision makers. A research project (diploma thesis) co-funded by the provincial government within its "Energy Technology Programme" turned out to be an important carrier of information. It triggered governmental acceptance, as research is having a positive connotation. A technical university has been advising scientific and technical steering and monitoring (Obernberger/BIOS). That again, strengthened the internal position of the project, which had been presented to the Linz AG's governing body.

In addition, here a cost-benefit analysis turned out to be important.

Objection to the project did not show up intensely. Representatives of the paper industry brought the arguments forward that there would be not enough biomass material available. Linz AG offered and suggested co-operation, but that was not accepted. Project progression has not been hampered by that.

A severe hindering factor, the project had to overcome, was a very narrow time schedule and deadlines for project concept and realisation. Severe changes (three times) of funding schemes and approval conditions during project development had to be managed.

**Research
promoted
acceptance**

Future development

Which development options for the project would be attractive and realistic? Gimmelsberger: "The assortment of fuels should be enlarged. At present the plant processes only completely untreated wood. Agricultural residuals could become an additional option."

From a CO₂-emissions point of view, additional targets could be further addressed: The plant operates completely under regenerative terms und produces (nearly) zero emissions. For further reducing CO₂-emissions, it would be rational to increase the buildings' connection density.

Some further technological features should be installed to meet that demands: A second processing unit would become necessary or at least an increase of the existent unit's performance and degree of efficiency. Technical features therefore comprise as well materials tolerating higher vapour pressures and temperatures.

**CO₂-emissions
could be further
reduced**

3.2 Geothermal DHN Créteil

Project name: Geothermal Créteil DHN

Interviewee

Name: René Bérard
 Role in the project: Project Supervisor
 Address: Dijon, France
 Telephone: (+33) 3 80 77 67 00

Project environment

Créteil is a major French commune with about 88 000 inhabitants, located in the suburb region of Paris, 12 km southeast of the centre of Paris, within the region Île-de-France.

A dense populated area

The geothermic plant is a business operated by the Société de Chauffage Urbain de Créteil (SCUC), a company belonging to Dalkia, a European energy service group, whose shareholders are Veolia and EdF. At the beginning of project, the plant has been owned by Caisse Nationale des Dépôts.

The plant has been erected already in the mid-thirties. 1985–1987 mainly 5000 to 6000 residential buildings (houses) have been connected to the heating grid, provided by the enterprise.

Acceptance status

People affected

The following institutions represent people affected by the project:

- Geo Chaleur (Project supervisor)
- Inhabitant association
- Samaec
- Creteil municipality.

Inhabitants save costs

Building inhabitants have been affected quite positively.

For buildings inhabitants the project constituted some cost advantages: at beginning of the project the price for heating has been quite constant and less than afore. The project further rehabilitated houses, contributing thermal and noise isolation.

Building owners, building workers, and local business entrepreneurs have been affected quite positively. The project has been funded by less than 20% of public investment.

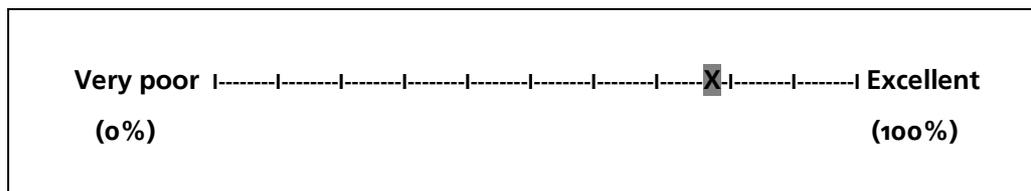
Regional politicians and municipal officers have been affected very positively. Reasons for that high acceptance have been identified: For politicians, the project provided a good advertisement using the image of green energy. At the same time they profited from a high inhabitants' acceptance.

Overall, ...

the acceptance of the project was rated 78 from 100 points, in comparison with a best project with respect to acceptance and local integration, i.e. a project yielding the maximum out of the budget. Due to a member of CAMELIA project team, heat consumers' acceptance losses have been caused by incomprehension, why geothermie prices are still quite high and correlate with oil prices, even though access to geothermal sources obviously is for free.

**Costs for
renewables have
to be argued**

Acceptance of geothermie in Créteil



Source: Interviewee

Managing acceptance

A driving factors influencing the decision that the project has been realized, has been an expected stability of the energy price for consumers. A second factor has been the benefit of using a green energy.

A difficulty in this project was to acquire a permit from national authorities and to limit noise during construction. It was necessary to dig a 1 ha ground in the city, digging 2 months for 24 hours per day.

Supporting measures to increase acceptance have been owners' meetings as well as a cost-benefit analysis. Objection to the project only arose by other heating suppliers, meaning that the geothermie project reduced their market share.

Future development

No considerations about future development have been reported.

3.3 Sanatorium Busko-Zdrój

Project name: Włókniarz Sanatorium Busko-Zdrój, Poland

Interviewee

Name:	Dariusz Koc
Role in the project	Member of the Polish Team
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Telefax	+48 22 787 80 56

Project environment

Włókniarz Sanatorium is a hotel and treatment complex with 500 beds. Accommodation, therapeutic treatment and services are all in the same building. The sanatorium is surrounded by a park and a forest, it has its own fenced green areas and parks (5.5 ha). The sanatorium advertises its clean, ecological environment, bioclimate, and a unique feeling of comfort.

The Włókniarz Sanatorium is located in Busko-Zdrój, a town in South-Eastern Poland, 200 km from Warszawa. The town's population is about 18000.

Busko is a dynamically growing spa, administrative centre, and the capital of the Busko district. The surrounding villages constitute an agricultural region, where vegetable and fruit growing dominate, and where the most popular rural economic activity is rural tourism.⁴

The healing properties of Busko's hydrogen-sulphide saline waters have been acknowledged since the 13th century. The bath complex has been built in the 19th century according to the design of the Italian architect Enrico Marconi. After Second World War, the health resort remained the main factor in the town's growth and development.

**A recreational
site**

⁴ See: www.wlokniarz.pl

Acceptance status

Stakeholders

Approximately 700 patients (per year) are affected by the project.

Due to indication of the interviewee, neighbours as well as tourists (patients) have been affected by the project very positively.

Patients – an exacting market

Owners and operators

Włókniarz Sanatorium is owned by the Trade Union of Workers of the Textile Industry.

Energy services are provided by an own technical team, a common exploitation, and external services. Energy and natural gas are delivered by a local distribution company based on tariffs approved by the Energy Regulatory Office of Poland. Fuel oil (for reserve) is purchased from local deliverers based on market conditions.

Approximately 150 of personnel are affected by the project.

Due to indication of the interviewee, building owners, inhabitants and workers, as well as local business entrepreneurs have been affected by the project very positively. The action “significantly improved environmental impact of the sanatorium complex on the local level. Additionally, in the consequences of the action, the energy consumption and energy costs have been significantly decreased.”

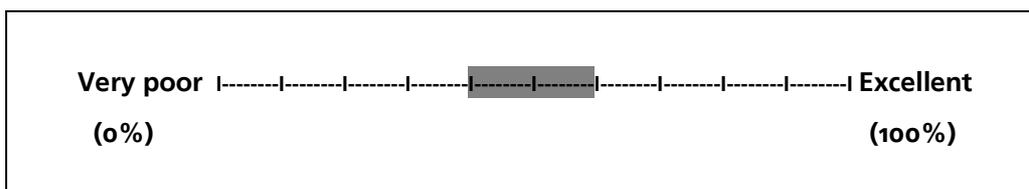
Regional politicians and municipal officers have been affected quite positively.

Overall, ...

the acceptance of the project was rated 40 to 60 from 100 points, in comparison with a best project with respect to acceptance and local integration, i.e. a project yielding the maximum out of the budget. Due to a member of CAMELIA project team, acceptance did not yet reach its maximum value, as measures for insulation, heat recovery and cooling have not been introduced in an optimal way, and some improvements are still in a planning phase.

Technical problems

Acceptance of energy measures in Włókniarz Sanatorium Busko-Zdrój



Source: Interviewee

Managing acceptance

A cost-benefit analysis has been carried out in order to increase acceptance, predominantly at the owner and at the financiers.

Investment has been funded publicly by approximately 40 %. It will take about 16 years, until investments are paid back. This constitutes a certain benefit for the investor.

The owner of the sanatorium complex benefits from economic aspects: The project decreased energy bills by about 40 %.

**Decreasing
energy bills**

Other driving factors influencing the decision that the project has been realized were:

- environmental friendliness and building of a “green image” of the sanatorium complex
- improvement of the technological processes and increase of operational reliability and safety of common exploitation
- expectation related improvement of the indoor climate condition
- financial benefits (after considering additional co-financing from environmental fund)
- comprehensive approach related to all aspects of energy consumption for the whole building complex and careful planning of the steps to be done in the future
- a “one-person” approach: A decision centre (technical director) has been responsible for preparation and development of the project, in succession of the owner’s acceptance of the general modernisation program.

Main obstructive legislative demands the project had to overcome were e.g. bureaucracy and time consuming procedures related the application process for obtaining of co-financing from environmental funds.

**Time consuming
bureaucracy**

Complicated and difficult processes of technical designing for particular advanced installation and control systems have been source for other difficulties, e.g. some technical mistakes made during implementation phase. They have been finally corrected. The general approach has not been open enough. That may probably have been caused by a lack of specialists’ and designers’ experience.

Any public or stakeholders’ objection to the project did not show up.

Future development

A comprehensive approach and optimisation of the modernisation program would constitute a most attractive development option for the project. All actions should start from the most beneficial to the less ones, and, in parallel, consider opportunities for financing of particular parts of modernisation.

Further targets of CO₂-emission reduction should address the demand for heating and technological purposes – there are no other sources of CO₂ emission.

**Improvements
not yet finalized**

There are several technological features that should be installed to meet that demands:

- modernisation (exchange) of remaining part of old windows, yielding savings of approximately 10 %
- modernisation (insulation) of remaining part of walls, yielding savings of approximately 8 %
- insulation of top roofs on hotel buildings
- modernisation of mechanical ventilation systems in the technology building and kitchens by installing of modern system with high efficient heat recovery units and air conditioning
- insulation of ground floor, to be considered in connection with the more general repairs of the relevant compartments
- finalisation of the modernisation of hot water distribution system: installation of aerators, check valves, flow regulators. Some further technological features should be installed to meet that demands. A second processing unit would become necessary or at least an increase of the existent unit's performance and degree of efficiency. Technical features therefore comprise as well materials tolerating higher vapour pressures and temperatures.

3.4 DHC Network of ParcBit, Palma de Mallorca

Project name: District Heating and Cooling Network, Parque Balear de Innovación Tecnológica (ParcBit), Ctra. Palma de Mallorca, Spain

Interviewee

Name:	Miquel Guasp
Role in the project	Plant engineer
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e-mail	mguasp@parcbit.caib.es

Project environment

ParcBit, the Balearic Technological Innovation Park, is a project boosted by the government of the Balearic Island with the aim of serving as a platform for the implantation and development of the information society in the Balearics. ParcBit is creating an innovative point of attraction, constituting social technological transfer networks and strengthening regional development.

The park is located in the mountainous area of the island, 10 km from Palma de Mallorca, and has taken up activities in 2005.⁵

ParcBit has more than 650 people working in the companies connected to the District Heating and Cooling network. There are no residential buildings.

The buildings belong to more than 30 companies installed in the Business Park. The company running ParcBit is a public company depending on the regional government.

The municipality is not directly involved in the project. There is a company providing energy services to the buildings located inside the park. The energy is provided by a centralised plant that belongs to an energy services provider company, the Sampol group. The DHC network is run by a public company (ParcBit Desenvolupament S.A.) belonging to the regional government.

The property of the buildings is different from the company running the energy plant.

**Technology
transfer to
a tourism region**

⁵ See www.parcbit.es

Acceptance status

Stakeholders

Main stakeholders are the workers at the business park, the owners of the enterprises located at the park, the owners of the park, and local service providers (hotels, maintenance companies, etc)

Inhabitants and operators

Due to indication of the interviewee, building inhabitants and workers, neighbours, local business entrepreneurs, regional developers, labour and environment NGO actors have been affected by the project very positively.

The neighbours and local business entrepreneurs enjoy the presence of singular facilities and other advanced technology companies that can attract investment and the presence permanent or temporarily as visitors of people working in this field with high added value products.

Owners and municipality

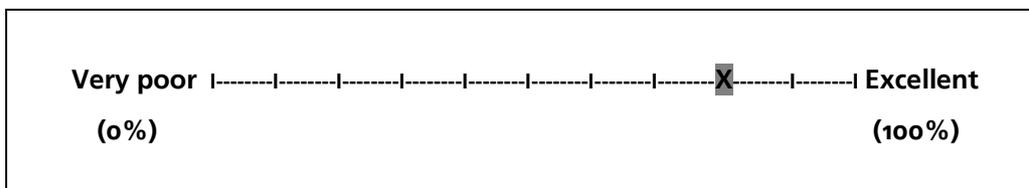
Building owners, tourists and regional politicians and municipal officers have been affected quite positively.

Due to indication of the interviewee, the involvement of local municipalities or the local university is quite low maybe because it is seen as it is not their own initiative.

The projects aimed at a neutral impact on rental fees and energy costs. All buildings in ParcBit are connected to the district heating and cooling network from the beginning and there is no possibility to compare with previous costs. The economic objective of the ParcBit is that the companies installed in the park at least do not pay more than companies connected to conventional energy systems.

Neutral costs

Acceptance of ParcBit DHC network, Palma de Mallorca, Spain



Source: Interviewee

Overall, ...

the acceptance of the project was rated 80 from 100 points, in comparison with a best project with respect to acceptance and local integration, i.e. a project yielding the maximum out of the budget.

A reason for the not full acceptance of the plant may be seen in the fact, that "The business park is still not fully occupied and the energy plant is not completely developed to their full capacity, so it is not possible to calculate the payback. The energy demand has not reached yet the expected values."

Capacity problems: park not fully occupied

Managing acceptance

Only few measures have been taken (and were necessary) to increase acceptance.

The energy plant and DHC network were constructed at the same time as the Business park and there was no opposition to include it in the project. The park is dedicated exclusively for companies expected to use only clean technologies (services, telecommunications, software, etc) and the DHC includes also solar energy for heating and cooling, no biomass with some problems with logistics or particulate emissions. Thus there was no opposition in these aspects.

Energy technology advances constituted an important driving factor influencing the decision that the project has been realized. The main idea was to build an advanced Business Park for high technology companies and using energy efficient and renewable energy sources to provide energy to the park. This park was the first one in Spain on its category using a District Heating and Cooling network.

Transitional objections were brought forward from the previous owners of the land, where ParcBit was constructed. The previous owners considered that they do not received enough money for their property dedicated to agricultural activities.

Actual hindrances are possibly the installation of new companies in the park. Reaching maximum utilization of the park's capacities has been slower than expected. A reason maybe seen in the need for some infrastructures in the Island such as a natural gas network connected to the peninsula that is still not available.

Infraestructure missing, e.g. for natural gas

Future development

The connection to the natural gas grid could be a good opportunity to further reduce costs and emissions, and would constitute an attractive and realistic development option.

The project management of ParcBit is trying to further optimise the energy supply system according to the existing energy services demand in buildings in order to increase plant efficiency and emissions reduction.

The appropriate technology solutions are already implemented, although the project concept is open to a future integration of the best available technologies.

4 Analysis of the results

4.1 Project comparison

The following table reflects major socio-economic aspects of the four case projects, which have been explained in the previous chapter.

Three projects have in common, that they are established in municipal areas. Thus they had to meet customers' demands, many people can be regarded as stakeholders affected. One project (ParcBit, Spain) has been established in the rural area.

Overall acceptance is positive in all four cases, but benefits have been distributed quite heterogeneously. Economic benefits were achieved in three cases, but they were transferred to the customer only in case Geothermal DHN Créteil, whereas for Biomasse Linz and Sanatorium Busko-Zdrój they remained at the provider. No direct economic benefits (but indirect) were documented for ParcBit, Mallorca.

**Positive
in all 4 cases**

In three cases (Palma, Linz and Créteil), where public companies are the key-players, acceptance has been promoted by political benefits, creating a positive green or advanced technology image to the actors involved.

**... but for
different reasons**

The sanatorium profited also strategically by increasing its quality of health promotion.

Objections to the projects occurred quite seldom. They never originated significantly from neighbours, inhabitants or end-users, but emanated from other market participants: competitors in the same branch (heat providers) or competitors for input products (wood, wood chips, farming land ...). In total, those objections have not been a severe hindrance to project development. On contrary, competition for local produced raw materials (wood) gave reason to increasing incomes and employment at regional forestry and farming.

Table: Socio-economic aspects and acceptance in CAMELIA case studies

Project	Biomasse Linz, Austria	Geothermal DHN Créteil, France	Sanatorium Busko-Zdrój, Poland	ParcBit DHC network, Palma de Mallorca, Spain
Owner type	Municipal service company	Municipal heating service company	Trade Union	Public Company, belonging to regional government
People affected	20 000 heat consumers and neighbours	6000 heat consumers and neighbours	150 personnel and 700 patients per year	650 personnel in 30 companies
Project history	Established 2005	Established 1985	Modernization process since 1995	Established 2005
Project future	Potential enlargement	Status quo remains	Further improvements necessary and likely	Status quo remains
	<i>Acceptance aspects</i>			
Overall acceptance	Quite high	Quite high	Medium	Quite high
Economic aspects	Public subsidies caused a short pay-back time	Cost decreases for end-users	Cost decreases for operating company	No direct impacts Indirect: Creation of qualified jobs, increasing value added and incomes
Political aspects	Municipal politicians profited from green image	Municipal politicians profited from green image	None	Regional politicians profited from advanced technology image
Social aspects	Creation of employment in surrounding rural areas	None	Measures are in-line with corporate identity (health promotion)	Measures are in-line with corporate identity (advanced and clean technology promotion)
Objections met	Paper industry	Competing heat providers	None	Land owner, selling farming property
Hindrances tackled	Changing subsidy schemes	Construction permits and noise disturbance	Bureaucracy, technology, qualification	Reaching full capacity utilization
Acceptance measures taken	Advance information, public event, cost-benefit analysis, comprehensive brochure, research projects	Cost-benefit analysis, owners' meetings	Cost-benefit analysis	None

This again creates a benefit for the provincial economy, as well to the provincial government.

A common hindrance to be tackled has been time-consuming acquisition of legal permits and public co-funding. In the Austrian case these were caused by narrow time-schedules and changing subsidy schemes, in Poland bureaucracy and time consuming procedures occurred, and also in France permits from national authorities turned out to be laborious to achieve.

In Poland, also knowledge gaps concerning technical solutions had to be overcome.

In Spain, a problem still crucial, is reaching full capacity utilization of the technology parc.

Measures for increasing acceptance included a cost-benefit analysis in each case. Other measures have seldom been taken. An owners' meeting supported acceptance in Créteil. The latest project, Linz, increased acceptance additionally by advance information, a public event, a comprehensive brochure, and – quite important – research projects.

Hindrances: legal permits, public funding, market competition and lobbies

4.2 Conclusion

Socio-economic acceptance for energy issues is gaining increasing attention. Unlike in prior times energy customers today need a broad range of communication, information and matching. Multigeneration energy projects need to deal with it intensely.

Demands for addressing acceptance origin from various groups of stakeholders: Building owners, tourists, regional politicians and municipal officers, building inhabitants and workers, neighbours, local business entrepreneurs, regional developers, labour and environment NGO actors. The case studies show that these groups typically are affected positively by locally integrated multigeneration projects. But the measures taken to increase acceptance often seem poor.

Cost-benefit and other analyses addressing the owner, investors and business management reasons are predominant. Benefits for regional stakeholders and for the regional economy are seldom brought forward. Environmental impacts of the activities generally have been used to create a positive image for the operating company as well as for local or regional politics.

Some obstacles have to be tackled quite often: legal permits, public funding, market competition and sectoral lobbies.

Here again, a broader approach of a socio-economic impact analysis and appropriate information measures would be valuable. Evaluations should become part of a two-way communication, containing participative elements in order to increase acceptance. Therefore, appropriate tools should be propagated, and their application should be considered on-demand and fit into project development.

Tools for increasing acceptance

5 Summary

This report evaluates four European cases of local multigeneration with respect to managing socio-economic acceptance. All these cases are accepted quite broad, but they all report certain hindrances and obstacles. Socio-economic evaluation may help to overcome them and increase multigeneration energy acceptance and diffusion. Within the case studies, measures taken to increase acceptance seemed poor. Case studies have been selected by the intention to cover a maximum of the geographical, economical and environmental diversity. The cases are located in Spain, Poland, France and Austria, and the comprise geothermal district heating, combined heat and cold networks, biomass, photovoltaics, and building reconstruction. This evaluation is part of the CAMELIA Concerted Action Multigeneration Energy Systems with Locally Integrated Applications, funded by the European Community, EC contract TREN/04/FP6EN/So7.31777/506486

6 Questionnaire

Concerted Action
Multigeneration Energy Systems with Locally Integrated Applications



Project name
Interviewee
Role in the project
Address
e-mail Telephone Telefax

Socio-economic acceptance fact sheet

1. People affected

Who are the projects' stakeholders – people affected by the project?	
How many people live or work in the building? Please give type of inhabitants: residential, guests, tourists, workers, employees	
Who owns the building(s)?	
Who provides energy services?	
Which municipality is responsible?	
Please point out any ties or dependencies between owners, energy providers, municipality?	

Who has been affected by this action positively or negatively?

<i>Please click each line – your personal opinion!</i>	Very positively	Quite positively	Quite negatively	Very negatively
Building owners				
Building inhabitants and workers				
Neighbours				
Tourists				
Local business entrepreneurs				
Regional developers, labour, environment NGO acteurs				
Regional politicians and municipal officers				

Please name significant reasons:
.....
.....

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2. Acceptance and integration

Which measures were taken to increase acceptance for the project? *Please click all appropriate categories*

- Advance information
- questionnaire
- owners' meetings
- round table / workshop
- public event
- one-on-one interviews
- cost-benefit analysis
- comprehensive brochure
- flier
- none
- other

Has there been any opposition to the project? no yes

When yes, ...

By whom?

Which arguments were brought forward and which reasons were behind?

.....

How were objections answered / criticism handled?

.....

Which consequences were drawn?

.....

.....

3. Economic aspects of acceptance

For tenants, did the project increase rental fees? no yes *When yes, how much%*

Did the project decrease tenants' energy bills? no yes *When yes, how much%*

Did the project increase tenants' energy bills? no yes *When yes, how much%*

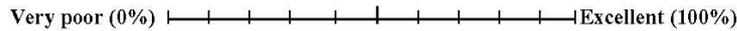
Benefits for the investor:

Has investment been funded publicly? no yes *When yes, how much%*

How long will it take, until investments are paid back? years

Overall, please rate the acceptance of the project

Imagine a best practice project, i.e. a project yielding the maximum out of the budget. Rate your own project in comparison with such a best project with respect to acceptance and local integration



4. Driving / Hinderig factors

What were the driving factors influencing the decision that the project has been realized?

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.....

.....

What were the main obstructive legislative demands and other hindrances the project had to overcome?

.....

.....

.....

5. Future development

Which development options for the project would be attractive and realistic?

.....

.....

.....

Which further targets should be addressed from a CO2-emissions point of view?

.....

.....

.....

Which further technological features should be installed to meet that demands?

.....

.....

.....

Please use this questionnaire as a preparation. A partner of the CAMELIA project will contact you in the next days and will interview you personally.

P.S.: Thank you for your co-operation!
