



CONCERTO is co-funded by the European Commission under the Framework Programme and today it includes 46 communities in 18 different projects



Guidance Note for CONCERTO proposers

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1. INTRODUCTION

The objective of this guide is to provide additional information to the text of the CONCERTO part of the call for proposals of COOPERATION programme, Theme 5, ENERGY (Activities Energy 2.8, 4.4 and 8.4), call identifier: FP7-ENERGY-2008-TREN-1 and the work program of the 7th Framework program. Its aim is to respond to practical questions related to the principle of CONCERTO as well as to frequently asked questions related to the preparation of a CONCERTO proposal. The current version of the guide may be updated in the future to incorporate issues which are raised frequently by promoters and are not adequately explained.

2. TRADITIONAL SECTORIAL APPROACH & CONCERTO

The Directorate General for Energy and Transport is continuing to support the development of individual technologies for the renewable energy sources (Bioenergy, wind, small hydro, geothermal, solar) and energy efficiency sectors (eco-buildings, polygeneration). This is still needed because each one of the technologies concerned face different challenges at different stages of development. Hence, innovative “lighthouse” projects are still necessary to accelerate the development of new technologies and their introduction in the market.

In parallel to this traditional sectorial approach, CONCERTO projects are focusing on systems integration. They combine demonstration of energy efficient technologies in buildings supplied by renewable energy sources, integrating energy demand with supply, in an economic perspective.

3. THE 7th FRAMEWORK PROGRAMME & CONCERTO

The CONCERTO initiative is part of the 7th Framework Program (7th FP) for Research and Technological Development. Hence all rules and requirements of the 7th FP, as well as the evaluation criteria, fully apply to CONCERTO proposals. The CONCERTO projects are Collaborative projects with a predominant demonstration component. Due to their research nature, the projects should focus on research excellence, systems innovation and data provision.

4. COMMUNITIES AND THEIR CITIZENS IN CONCERTO

Communities play a central role in CONCERTO projects. It is unlikely that a CONCERTO proposal will be initiated by individuals or private entities without the prior political commitment and setting of targets of the authorities and decision makers of the local community in which the project is to be implemented.

Since the objective of the CONCERTO initiative is to provide high quality energy services to the citizens, these citizens should be the focus of the project results. Those directly affected by the projects should be involved as much as possible in the projects, in particular in the monitoring of the buildings consumption, and in the education and dissemination activities. Provision for the citizens of the community who are not directly affected by the projects should also be made, in order for them to get properly informed on the benefits of the project, in view of a future extension/ replication of the interventions.

A typical CONCERTO community should:

- be of a representative size,
- work towards ambitious goals,
- produce visible and measurable impacts,
- enjoy a strong political commitment for the implementation of the projects: ideally, the local political authorities have committed themselves to reach the goals of the local regional energy concept or climate protection plan. If relevant, the documents reporting existing council orders should be included in the proposal.
- already have plans for sustainable development: If local regional energy concept or climate protection plans are available they should be included in the proposal.
- consider all aspects of sustainable development: even if CONCERTO focuses only on building and energy issues, also transportation, urban planning and social issues should be considered by the participating communities.

4.1. Size of the CONCERTO community

The call text makes no specific reference to the size of the CONCERTO community. A critical mass of interventions in buildings and installations of renewable energy systems is necessary for a project to make an impact and be visible and attractive (for replication purposes) at a European level. On the other hand, the necessary research and technological excellence as well as the need for a comprehensive monitoring programme set some limits to the size of the projects. The size of the successful communities of the two earlier CONCERTO calls varied considerably both in the number of buildings, their special distribution and the number of affected people. In the smallest of these communities about 500 people were directly affected.

4.2. Types of CONCERTO Communities and CONCERTO area

Any type of community can participate in CONCERTO. It can be urban (domestic, tertiary), isolated (rural, island), part of a city, small town, group of villages. What is important is that there must be a clearly defined geographical area/zone around which one could draw a line representing the boundaries of the CONCERTO project. The energy flows within the boundaries should be monitored.

There are 2 categories of projects communities can focus on:

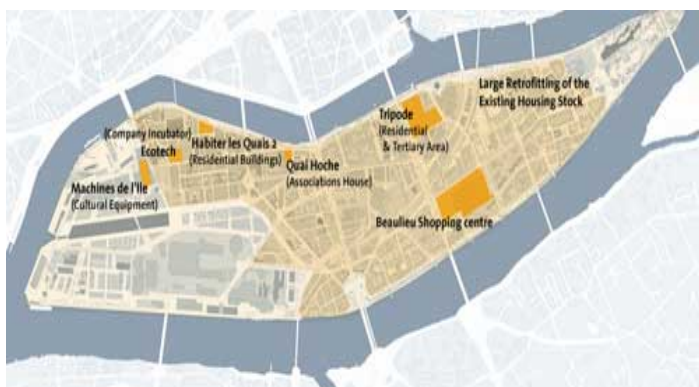
- one compact urban district to be newly developed or retrofitted, where all demonstration operations are concentrated in a reduced area.
- one scattered urban or rural area, where the demonstration operations are distributed over a relatively larger area containing buildings not directly affected by CONCERTO. In this case, all inhabitants who are not concerned directly by demonstration activities should be the target group of awareness measures, and the delivered energy of the concerned buildings should be metered.

The area defined should include characteristic features (buildings type and use) which are typical for the whole community.

In case of compact urban districts, a second area (part of the same community or an associated community) could be defined to act as a control area. This control area can have characteristic features which are similar to the CONCERTO area and could be monitored in

parallel with the CONCERTO area. In the case of refurbishment only, the CONCERTO area before refurbishment can act as a control area if the actual energy balance of the area can be provided for an adequate time period.

In case of scattered urban or rural areas, since it might not be possible to define control areas, control buildings can be defined. These control buildings should be comparable with the CONCERTO demonstration buildings (same use), be built according to the minimal requirements of local building codes and have to be monitored in parallel with the CONCERTO demonstration buildings. In case of refurbishment only, the buildings before refurbishment can act as control buildings if their actual energy use can be provided for an adequate time period.



An example of such an area is shown in the figure on the left.

Within the CONCERTO area, one should be able to meter and control if appropriate, all energy flows. This metering will allow for assessing the actual energy performance of the CONCERTO area.

It is strongly recommended to include a map of the CONCERTO area with its boundaries in the proposal document. This map should clearly indicate a single continuous physical boundary around the CONCERTO area, within which the energy economy will be monitored and promoted. The CONCERTO area can be also described as CONCERTO neighborhood.

4.3. Number of communities per proposal

In the first call of CONCERTO the Commission encouraged several communities to submit their projects in a common proposal. In the second call, single community projects were also supported. Experience shows that the administration and coordination of multi community projects are much more demanding and that difficulties in one of the communities of a multi community project could directly or indirectly affect the progress and funding of the other communities in the same project.

In the current CONCERTO call, a single community is welcomed to submit a CONCERTO proposal. Should some communities still wish to join other communities with similar/complementary projects they are equally welcomed to submit a common proposal. In this last case it would be advisable to describe each one of the community projects separately and to clearly explain the similarities and the added value of the communities working together in the same project.

In any case, each community to be supported should comply with all the requirements of the call and should present a project of high quality.

Projects with technological cooperation between partners from different Member States within each community project will be given priority.

4.4. Community data sheet (CDS) (see annex)

Based on the experience of the evaluation and negotiation of the projects of the earlier CONCERTO calls, and in order to assist project promoters to structure the information related to the community and the main project components, a form was developed called Community Data Sheet (CDS). The fields of the CDS, (attached to the present document and accessible separately in an excel file format in the same internet site), should be completed for each CONCERTO community. The first part deals with general community data. It contains:

information on the community (population, population affected) and its energy targets,

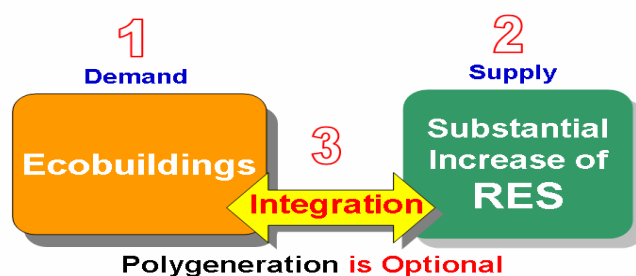
overview of the buildings to be affected (number of buildings and dwellings, ground floor area)

- overview of the plants using renewable energy sources to be installed (capacity, generation figures)
- information on the integration of the buildings and renewable,
- information on the polygeneration part of the project (if any)

The form also contains the total cost of the project components, their eligible cost, and the support requested by the Commission for each component .

5. THE THREE COMPULSORY COMPONENTS OF A CONCERTO PROJECT

For a CONCERTO community to have chances of being supported, it must contain **all** three components below:



1. An improved **energy efficiency** in buildings (eco-buildings)
2. New installations of **renewable energy** sources,
3. Innovative system **Integration** of the eco-buildings and renewable energy sources, through a network and controlling mechanisms.

5.1. Eco-buildings

The CONCERTO projects should be of a larger scale than a single eco-building project. A holistic design approach is expected in the eco-buildings component. Energy savings should derive from interventions on all the building parts where energy can be saved.

As it is the case for the single eco-buildings projects (of the earlier 6th FP), CONCERTO gives priority to the refurbishment/retrofitting of buildings. Nevertheless, highly energy efficient new buildings are also eligible for support.

There are minimum consumption levels set for the eco-buildings of CONCERTO communities. The calculated energy consumption of the eco-buildings of CONCERTO projects will be compared to the national regulations for **new** buildings applicable to the country of the CONCERTO community based on the new standards (applicable in 2010) following the European Building Performance Directive .

In the case of the CONCERTO refurbished/retrofitted buildings, their energy consumption should be max. the one foreseen by the national regulations for the **new** buildings in 2010.

In the case of new CONCERTO buildings, their energy consumption should be at least 30% lower than the one foreseen by the national regulations for the **new** buildings in 2010.

5.1.1. Building Energy Specification Table (BEST)(see annex)

Based on the experience of the evaluation and negotiation of the projects of the first CONCERTO call, and in order to assist project promoters to structure the information related to eco-buildings, a form was developed. This form, attached to the present document and accessible separately in an excel file format in the same internet site, should be completed for **each different type of building** in a CONCERTO community. The table allows promoters to present a concise summary of the design of the building envelope, and of the building energy

performance specification using a common format, and showing how CONCERTO specification compares with the applicable building regulations in the same location.

It contains information on:

The specifications of the building elements,
The building's energy performance,
The building's energy use.

5.2. Renewable Energy Sources (RES)

All renewable energy sources appearing in the list below are eligible for support:

- Wind energy
- Solar energy (photovoltaics and thermal solar)
- Hydroelectric energy
- Biomass energy (including the biodegradable fraction of waste)
- Landfill gas energy
- Biogas and sewage treatment gas energy
- Geothermal energy: electrical ground coupled heat pumps can be only supported if the amount of electricity required yearly is produced by other RES systems in the CONCERTO area.
- Ocean/Marin energy (wave, current, tidal)

It is possible that in the area where the CONCERTO project is to be implemented some renewable energy capacity is already installed. This existing capacity could always be taken into account in the design of the integration of the demand and supply as well as the monitoring/controlling of the CONCERTO project components.

Nevertheless, it should be clear that new capacity of renewable energy sources (substantially increasing the RES capacity) is expected to be installed in the framework of the CONCERTO projects.

The renewable energy production should be managed in an optimized way to fit in the local energy demand.

While an interesting concept, CONCERTO does not ask for 100% RES communities. Without excluding this option, a substantial increase in the share of RES would be enough for the project to be eligible for support.

It is preferable when possible to have the renewable installations within the CONCERTO area. Nevertheless, if due to the nature of the renewable source it is not possible to install it within the CONCERTO area boundaries, their installation can be in the vicinity of the CONCERTO area.

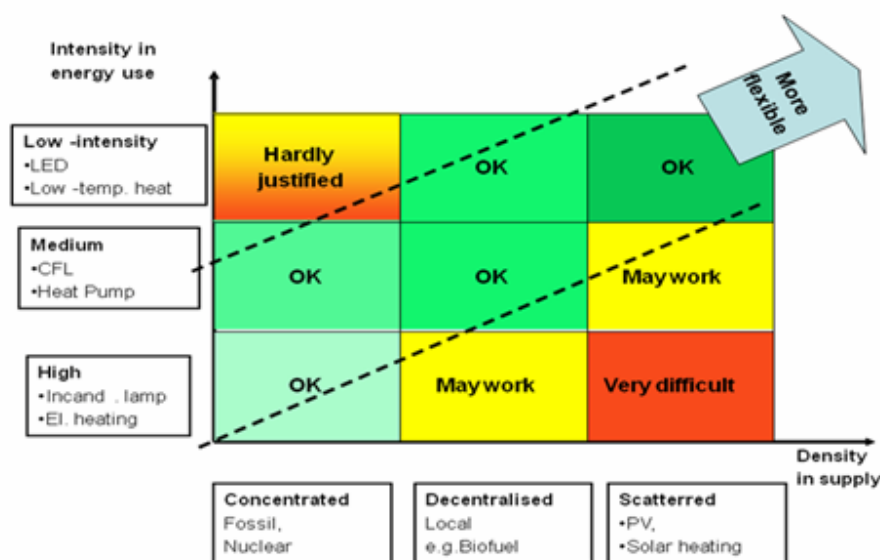
5.3. System Integration of RES and energy efficiency measures

The energy efficiency measures and the renewable energy supply should be designed and implemented in an integrated way, in order to optimize the overall system's performance. For

example, the green electricity generated by the RES should not just replace energy from conventional energy sources and be consumed in non-energy efficient ways. Green electricity should be used in more energy efficient systems.

Similarly, the integration of RES and energy efficiency measures should be optimized from a cost-effectiveness perspective, such that low cost energy efficiency measures are implemented before higher cost energy efficiency measures, and before any less cost effective investments in RE supplies.

An optimal integration of EE and RES should be sought. As illustrated in the image below, when low intensity energy systems are used a 'scattered' energy supply approach is applicable. However for high intensity energy use it would be difficult to meet the demands with the same 'scattered' systems.



(© Hans Nilsson): Optimum integration between EE and RES

In addition to the above, the quality of energy also has to be considered.

Last but not least, the energy consumption of the CONCERTO buildings should be controlled in ways, which take into account the variability of both the energy demand and the relevant RES supplies to which the building is connected. This should be supported by energy management actions (see point 7), including load management for instance. The performance of the control systems for the CONCERTO buildings should be monitored as part of the comprehensive monitoring of the energy demand and supply patterns in the CONCERTO community.

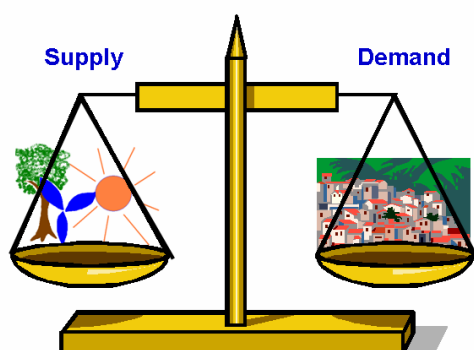
5.4. Polygeneration

Polygeneration **is optional** in CONCERTO projects. Nevertheless, it is eligible for support if it is appropriately integrated in a CONCERTO community project.

The term “polygeneration”, in the context of CONCERTO, means an energy supply system, which delivers more than one form of energy to the final user, for example: electricity, heating and cooling can be delivered from one polygeneration plant. Polygeneration does **not** mean a combination of different energy supplies to a given system, such as more than one type of electricity generator supplying a group of buildings.

Polygeneration can involve combined heat and power (CHP) and/or district heating or cooling, preferably by renewable energy sources. Such polygeneration systems should be designed and controlled with a view to optimizing all relevant interactions between supply and demand in the CONCERTO community.

6. BALANCED PARTICIPATION OF SUPPLY AND DEMAND



There should be a balance between the demand and supply in every CONCERTO community. Situations where the RES part supported by the Commission is oversized compared to the demand of the eco-buildings should be avoided. The same goes for the situations where the share of RES is too small compared to the demand of the CONCERTO eco-buildings.

7. CONCERTO ANALYSIS AND MONITORING

The information collected within each of the CONCERTO projects will be used for the evaluation of the effectiveness of the interventions, the verification of the initial forecasts, the promotion and the dissemination of the projects results. The monitoring results from all current and new CONCERTO projects are collected by the Commission to feed a comprehensive database. For this purpose, monitoring should be done in a way to permit the collection of meaningful and homogeneous data.

All selected projects will cooperate with and provide data to CONCERTO PLUS, an umbrella project of the European Commission that fosters the synergy between all CONCERTO communities. The selected projects will also participate in cross-site evaluations (with coordination of the impact evaluation) and dissemination activities at the level of the CONCERTO initiative envisaged in a future call.

The minimum requirements for monitoring are presented below:

7a: Technical Monitoring

The metering requirements are as follows. Some of those are based on key information from the CEN standard EN 15603:2008 "energy performance of buildings – Overall energy use and definition of energy ratings":

- Metering period and time framework for presentation of energy balance data
Monthly metered values of energy generation and energy consumption should be provided ideally for at least two years. If possible, there should be one common metering period where all energy flows in the CONCERTO area are metered.
- Weather data

Daily average value of ambient air temperature and hourly global solar radiation on the horizontal in the CONCERTO area should be provided for the same period when the metering of energy flows is taking place.

- Metering in RES-plants and polygeneration plants

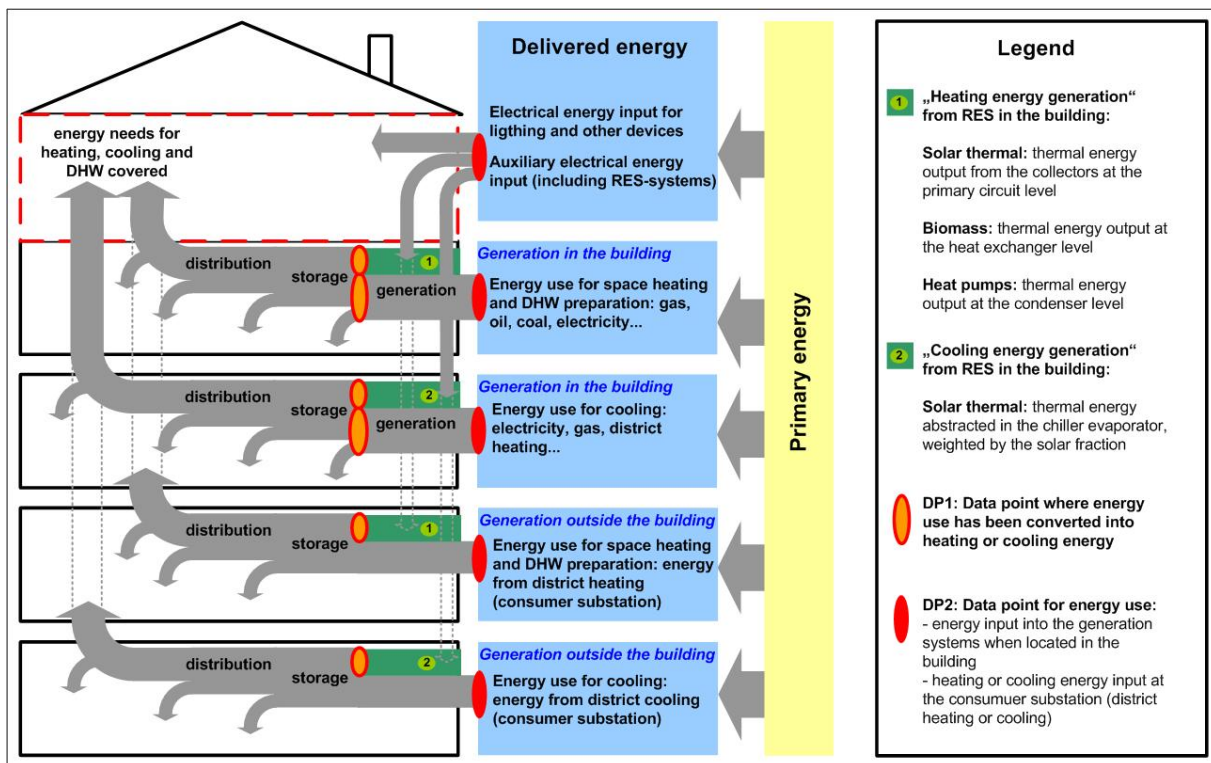
Monthly energy balance should be provided considering RES -input, non-RES input, auxiliary energy input and heating, cooling and electrical or fuel energy output.

- Metering in buildings: data points

For demonstration buildings, CONCERTO communities have to deliver the metered values for the delivered energy according to the aggregation level defined below and as illustrated on the figure “Energy flows in demonstration buildings” in the following page. In particular for energy systems located at the buildings, heating and cooling energy outputs for are defined as:

- for solar thermal collectors, the amount of thermal energy delivered directly by the collectors to the primary circuit (and NOT at the output of the storage unit);
- for biomass boilers or RES-CHP, the amount of thermal energy delivered directly by the boiler at the heat exchanger level;
- for heat pumps, the amount of thermal energy delivered in the condenser (heating mode) or abstracted in the evaporator (cooling mode);
- for sorption chillers, the amount of thermal energy abstracted in the evaporator.

For all other buildings which are not demonstration buildings but are included in the CONCERTO area, it is required that CONCERTO communities provide at least metered value of each form of delivered energy (biomass, district heating, district cooling, electricity, gas, other fossil fuel), without special focus on differentiation between energy uses.



Energy flows in demonstration buildings

- Metering in demonstration buildings: aggregation level of data
 - domestic hot water

If domestic hot water is prepared with another system as the one used for space heating (e. g. electrical or separate gas boiler), the corresponding energy use should be metered separately. If only one combined system is used to provide space heating and domestic hot water, then the energy use for domestic hot water preparation should be estimated for instance by measuring the domestic hot water consumption.

- electricity use

The metering of electricity use should be implemented in a way to allow for a separate determination of the electricity use for heating and cooling (including heat pumps). Ideally, it is recommended for large demonstration buildings in the tertiary sector to split the electricity use for:

- heating (including all auxiliary systems needed for heating: pumps, fans for ventilation system if inlet air is heated, also with heat recovery)
- cooling and dehumidification (including all auxiliary systems needed for cooling and dehumidification: pumps, fans for ventilation system if inlet air is cooled down, heat rejection systems (fans and pumps))
- ventilation and humidification (if not combined with heating and cooling, i. e. for the time the ventilation system works without heat recovery or buried air pipe)
- other applications (e. g. lighting, cooking, white appliances)

- buildings with different zones
If the demonstration building is made of different zones, i.e. with different occupancy patterns (e.g. residential and commercial use) and provided by different heating, cooling and ventilation systems, every single zone should be metered separately, as if they would be part of different buildings.
- sampling of dwellings among buildings
If the demonstration building is a large multi-family building, it is recommended to meter the whole building and NOT only a sampling of the dwellings. The common parts (corridors, laundries, technical rooms, garages...) should ideally be metered separately.

It is highly recommended to implement a community energy management system, which facilitates metering and data collection activities as well as the integration between RES and EE measures.

Ideally all construction work should be finished after 3 years in order to permit meaningful energy performance monitoring (1 year dry out and adapt all HVAC control systems, 1 year energy performance monitoring) before the end of the contract (5 years).

7b: Non-Technical Monitoring

For the non-technical monitoring, the following categories should be documented:

- Unemployment rate in the CONCERTO community
- Level of education
- Demographic data
- GDP / inhabitant, Average income level of households
- Share of household income spent on energy
- Rent index (dwellings)
- Property index
- CO₂ emissions t/inhabitant

Socio-economic research objectives are:

- to monitor the impact of the CONCERTO measures from the point of view of the citizens/stakeholders of the involved communities/districts;
- to define measurable indicators suitable to evaluate the real/perceived SE -impact of the CONCERTO measures.
- to design a general integrated evaluation framework aimed at assessing the impact of energy efficiency measures and RES, suitable also for different contexts and situations

The planned CONCERTO measures should be assessed also against categories measuring the social, environmental and economic dimension.

Criteria are:

- Degree of satisfaction with the CONCERTO measure(s)
- Improvement of demo-site acceptance / self-identification
- Degree of local involvement / level of participation
- Degree of local social cohesion: pluralism and cultural values / educational opportunities / equality

- gender and minorities / social inclusion
- Improvement of district quality of life and reduction of environmental pollution (air pollution: PM10, NOx, SOx, CO, O3) and CO2
- Economic viability and cost -effectiveness in relation to CO2 -reduction
- Increase in local control of energy supply / local energy production
- Reduction of fuel costs / consumption; lower energy (thermal / electricity) bills
- Stimulation of local economy, incl. creation of local employment and services
- Improvement of demo site (district) image / value, of dwelling image / value and increased demand for new flats
- Added value / profitability, internal rate of return (investor side)
- Householder satisfaction (with the implemented measures, with information, energy advice, with feedback -systems on consumption ...)
- Householders involvement (investing in energy efficiency measures, organised in local agencies / tenants organisations)

The socio-economic baseline should comprise data on the employment, economic and social characteristics of the Concerto communities/districts. Additionally, the SE framework should encompass:

- § Analysis of economic viability and cost -effectiveness in relation to reduction of CO2 -emissions
- § Analysis of different stakeholders/inhabitants perceptions about changes in the affected districts/communities and acceptance of the Concerto measures

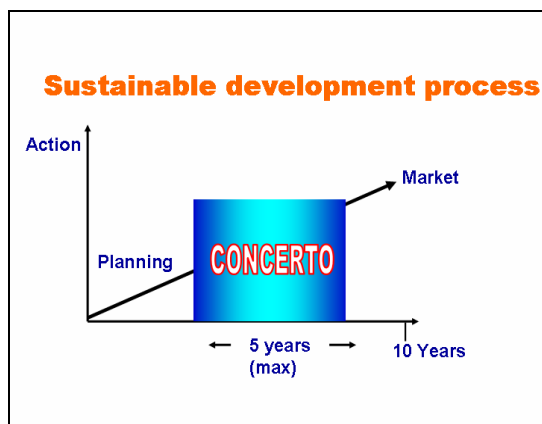
8. INNOVATION IN CONCERTO

Innovation is a prerequisite for a CONCERTO project to be supported, as is the case for any other project submitted in the 7th FP. Research excellence, system innovation and data provision are essential for the CONCERTO projects, as is their potential for a large impact in a European level.

The innovation can be linked either to the integration of the different technologies, components or systems and/or to the improvements in the individual technologies which are to be demonstrated in the projects.

The innovative elements of the CONCERTO demonstrations should be described in detail in the proposal, in a dedicated section, and clearly explained with reference to the current state of the art.

9. TIMING OF A CONCERTO PROPOSAL



As shown in the graph on the left, it takes typically 10 years from the time when the political decision to proceed to the sustainable development of a community is taken until the actual implementation of the idea and the introduction of the relevant technologies in the market. Since the CONCERTO contracts will have a duration of max 5 years, it is evident that for the projects submitted under CONCERTO, the political decisions and commitments should have already been taken and the basic components of the projects should have been defined to large extent.

If relevant, the participating communities should join their local energy concept (or climate protection plan) to the proposal in order to prove their engagement towards sustainable development. Any documents reporting the council orders announcing the commitment of the local authorities to reach the targets of the local energy concept (or climate protection plan) may also be included in the proposal.

Communities should sum up:

- which activities they did before CONCERTO
- which activities they intend to do after CONCERTO

10. COMPOSITION OF CONSORTIA

Since the implementation of a CONCERTO project requires strong commitments from the local authorities, local market actors and decision makers, evidence of such commitments should be included in the proposal.

Apart from the above, CONCERTO consortia should also typically include:

Utilities

Energy technology / service providers

Building companies / housing associations

Socio-economists for the relevant studies

Energy users

- Associated communities
- Planners (urban planning, architect, energy systems) and researchers

As in all other 7FP Collaborative projects, the consortium should be composed by at least 3 independent legal entities, each of which is established in a Member State or Associated Countries, and no two of which are established in the same Member State or Associated Country.

The effort of partners should be as balanced as possible. Proposals which involve technological cooperation between partners from different countries, within each of the CONCERTO communities, will be given priority.

The consortium should in principle include all the main competences necessary for the realization of the project. The number and composition of participants should be decided carefully, having in mind that the quality of the consortium is not only one of the evaluation criteria, but can also affect the quality of the project's management (an other evaluation criterion), if the number of participants becomes too large.

The involvement of SME's in CONCERTO projects is important and their roles should be clearly explained¹.

11. ASSOCIATED COMMUNITIES

The Commission encourages communities who have plans for sustainable development but are not yet ready to submit a CONCERTO application, to participate in CONCERTO proposals as Associated Communities. These Associated communities will closely follow the CONCERTO project, but cannot receive support for demonstration actions in their area. Nevertheless, they should have a clear role in the project and may receive support for the work in which they are involved (typically dissemination activities).

Associated communities should be committed to developing their own local energy policy and plans.

12. ELIGIBLE COSTS - CONCERTO DEMONSTRATION ACTIONS

Next to the reimbursement of eligible costs, the form of grant applied in area 8.4. of the 2008 work programme, "CONCERTO" is "flat rate financing in the form of scale of unit costs". Flat-rate financing will apply to additional energy efficiency measures in buildings and additional installed capacity of renewable energy sources and/or polygeneration. The flat rates financing is determined on the basis of scale of unit costs as set out in the table below. The eligible cost per building and per renewable source used in the projects are fixed costs; The evaluation of proposals will consider the degree of excellence and innovation of the technology used and the best cost effectiveness (euros/efficiency gain; euros/CO2 reduction; euros/kWh of RES supplied). Not innovative buildings measures, not innovative integration of PV, not innovative integration of solar collectors or not innovative RES technology will not be eligible.

The amounts of scale of unit cost of Community financial contribution by type of expenditure²:

Eligible cost for buildings [EUR/m² built or refurbished]	100
For installed capacity of renewable energy sources and polygeneration systems (with the exception of photovoltaic systems and solar collectors) [EUR/kW installed]	1200
For photovoltaic systems [EUR/kW installed]	5500
For solar collectors [EUR/m² installed]	500
Calculation: $S \text{ per m}^2 = \text{Energy saved (kwh/m}^2) * \text{cost of the energy} * 15 \text{ years}$ (S being the eligible cost)	

¹ Commission Recommendation 2003/361/EC (OJ L124 of 20.05.2003 p.36-41) on the new SME definition applies

² The flat rate for costs are calculated on the basis of those costs directly related to "additional energy efficiency measures" or "installation of renewable energy sources", both of them excluding profit. These rates were adopted for the 6th Framework Programme (Commission Decision DL(2006)3110 of 4/9/2006) and are applied without any changes in the 2008 call.

The total of Community financial contribution based on scale of unit costs per proposal may not exceed EUR 6 millions for one demonstration site or community (CONCERTO). This will be assessed in the evaluation.

13. SUPPORT DISTRIBUTION

It is expected that a proposal with a predominant demonstration component has typically the following structure:

- about 70% of the budget for **demonstration**, including costs for tests and supportive measurements,
- up to about 20% for **research and development** activities,
- up to about 5% for the **dissemination and promotion** of project results,
- up to about 2% for **training** (optional)
- up to about 7% for the **management** of the projects.

14. TOTAL INDICATIVE BUDGET



The indicative budget available for the FP7-ENERGY-2008-2 call of the 7th FP is 135 M euro. This will be distributed amongst all the open areas for proposals.

There is no fixed pre-allocation of budget for the above areas as this will largely depend on the quality of the submitted proposals.

The negotiated average level of support in the earlier CONCERTO calls was approximately 3 M euro per community. For the FP7-ENERGY-2008-2 CONCERTO call, it is estimated that about 15 CONCERTO communities will be supported.

15. EVALUATION CRITERIA

- The evaluation criteria (including weights and thresholds) and sub-criteria, together with the eligibility, selection and award criteria, for the different funding schemes are set out in Annex 2 to the 2008 work programme.
- Proposals will not be evaluated anonymously.

Ranked lists of proposals will be established for each activity as well as for the CONCERTO related topic in area 8.4. At the Panel stage, proposals with equal overall scores will be prioritised according to their scores for the Quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion, and then by their scores for the Implementation criterion. If any proposals are still tied, then overall Work Programme coverage will be used to decide the priority order. A reserve list will be constituted if there are a sufficient number of good quality proposals. It will be used if extra budget becomes available.

16. MAIN DIFFERENCES OF THE CURRENT AND EARLIER CONCERTO CALLS

While the principle of the CONCERTO initiative and the remains the same, there are some differences between the first and second CONCERTO calls which can be summarized as follows:

- More emphasis is given to the Research and technological excellence and innovation levels of the interventions in the projects, rather than the scale of the installations.
- The additional forms to be completed providing a structured and easily comparable overview of the main demonstration project components and the eco-buildings (CDS forms and BEST tables) are slightly modified .
- The scale of unit cost is introduced for the eligible costs of the projects. There is a fixed cost per kW of RES installed (and m² for solar thermal) and m² for buildings build or refurbished.
- The requirements for the monitoring of the projects are explained more in detail .

17. SOME WEAK POINTS OF EARLIER CONCERTO PROPOSALS

Some of the most frequently misunderstandings encountered during the evaluation of the proposals of the first CONCERTO call are the following:

- Absence of one of the compulsory components (usually integration)
- Imbalance between supply and demand
- Too much focus on the description of only some components of the project
- Scattered sub-projects. Frequently, very interesting and innovative sub -projects are proposed for implementation in an area, without any apparent coherence, integration or connection to each other.
- Conditional project parts, where the demonstration of part of a CONCERTO project depends on a future decision or on the uncertain realization of another part of the project. This situation is difficult to handle during the evaluation of the proposals.
- The proposed energy performance of the demonstration project components (usually buildings) do not exceed that of normal commercial practices
- Inadequate monitoring of energy flows, which are needed to study and analyse the impacts of the CONCERTO project
- The energy performance targets of the community lack ambition, and the impact of the project is therefore likely to be low
- Over enthusiasm for the project with a description which attempts to impress the evaluators, rather than convince them of the merits of the project.
- Unclear / imprecise /unstructured/ incomplete information
- Proposal text is too long, with a structure which makes it difficult to read and extract the meaningful information. Proposals should contain less than 100 pages and be structured in accordance with the Guide for Proposers for Integrated Projects (see CORDIS web site)
- Feasibility studies, concerning the main components of the CONCERTO projects, are not completed before the submission of the proposal, resulting in uncertainties about the main components of the CONCERTO projects.

18. THINKING OF SUBMITTING A CONCERTO PROPOSAL? SUGGESTED FIRST STEPS

- Read call text carefully
- Become familiar with FP7 rules and procedures (Cordis site: <http://cordis.europa.eu>)
- Read information in Concerto Plus site (<http://concertoplus.eu>)
- Read Guidance note for CONCERTO proposers
- Find complementary partners and make a planning for the distribution of effort and budget.
- Complete the Community Data Sheet (CDS) form and Buildings Energy Specification Table (BEST) (documents annexed to this guide)
- Discuss principle with the National Contact Point (list in Cordis site) or EC officers

19. OTHER ISSUES

19.1. Project summary³

It is recommended to include a stand alone text of no more than 2 pages summarizing the work to be done in each CONCERT O community.

19.2. Outline implementation for the full duration of the project

This section of the proposal (B.4) must include a complete set of work packages covering the **full duration of the project**, as well as a Gantt chart, work package list and deliverables list. The effort form and the budget form should also be completed for the full project duration.

As far as possible, separate work package descriptions should be prepared for research, demonstration, training and management actions in order to facilitate the evaluation exercise and the justification of the relevant costs which receive different percentages of EC support.

19.3. Electronic proposal submission

As is the case for all proposals responding to the currently open call, the submission will be only electronic, using the Electronic Proposal Submission System (EPSS) via Cordis (<http://cordis.europa.eu/>).

The structure of proposal is the following:

- § Part A: standard forms for administrative information
- § Part B: scientific and technical description

No paper submission will be possible. (In exceptional cases, however, a coordinator may request permission from the Commission to submit on paper. For details please see the call text.) The proposal documents will be sent in pdf format. No annexes will be accepted. All documents related to the technical description of the work (included the Community Data Sheets (CDS) and the Building Energy Specification Table (BEST) should be included in the pdf file in part B of the proposal.

³ Please note that this summary has to be integrated in the part B of your proposal which has to be submitted electronically only in pdf. Format. Please note that this summary can not replace the abstract to be given in part A of your proposal.

20. WHAT IS CONCERTO PLUS?

CONCERTO Plus is a service contract which adds value to the CONCERTO projects, supports the European Commission and contributes to the success of the CONCERTO initiative on scientific, technical and policy levels. CONCERTO Plus includes coordinated analysis, monitoring and dissemination of the results from all CONCERTO projects including the strengthening of networking between the CONCERTO projects and facilitating the transfer of best practices to new communities across the European Union.

21. ADDITIONAL INFORMATION & CONCERTO MAILBOX

A list of useful WEB addresses follow:

Homepage DG Energy and Transport

http://europa.eu.int/comm/dgs/energy_transport/index_en.html

FP7 Cordis homepage :

<http://cordis.europa.eu/>

CONCERTO plus:

This site is containing comprehensive information on the CONCERTO initiative, and the supported CONCERTO projects.

<http://concertoplus.eu>

CONCERTO guide:

http://ec.europa.eu/dgs/energy_transport/rtd/7/index_en.htm

CONCERTO mail box

A mailbox dedicated to questions concerning CONCERTO has been created in order to facilitate contacts of potential project promoters and the Commission officers:

Tren-concerto@cec.eu.int

22. ANNEX I

CONCERTO call text, *Open in call: FP7-ENERGY-2008-2*

Topic ENERGY 2008.8.4.1: CONCERTO communities: the way to the future

Content/Scope: The overall objective of CONCERTO projects is that communities demonstrate and validate advanced, innovative and sustainable energy solutions in which energy efficiency and renewable energy sources are integrated from an economic perspective, which show the possible range of applications of renewables at community level, and which deliver high quality energy services and high value for the citizens.

To achieve this sustainable development, a general optimisation of the system should be done, not only in terms of energy issues but also in terms of urban planning, transportation and social issues. For example, the communities should include a convincing mobility plan into the proposals. This mobility plan will not be co-financed by CONCERTO, but it should ensure that the energy saved in buildings will not be compromised by an increased need for mobility or use of transport fuels.

Community wide advanced models and ICT based solutions shall also be used for the design, measurement (including remote metering), assessment and management of energy flows.

The ambitious and innovative systems configuration will allow for high performance with improved socio-economic implications, i.e. cost-optimisation through integrated solutions instead of parallel stand-alone solutions, and shorter pay-back periods through high savings on energy and social costs. In this respect, the projects will include an assessment of technological and energy performance, and an assessment of costs and benefits from a socio-economic point of view. The results should be attractive for future replication and market deployment. The Concerto Plus project and its follow-up initiative will provide support (input data, indicators) to this analysis as well as for innovative investment / contracting / financing schemes.

Detailed, high quality and convincing plans for dissemination (also in co-operation with horizontal actions related to the CONCERTO Plus initiative) and the exploitation of results for market deployment will be important elements of the evaluation of the proposals. With the aim to speed up the take-up in the market, this should include communicating the results of the projects and communities to local and regional authorities, the renewable energy and energy efficiency projects funded through the Structural Funds⁴ and the relevant trans-national and cross-border networks⁵. This will be done in close cooperation with the CONCERTO Plus initiative and subsequent actions.

Such holistic approach requires that all relevant players at all levels – local and regional policy makers and authorities, energy service providers, real estate developers, investors, public service facilities, construction companies and planners, technology providers and economists – play together to achieve this goal of truly sustainable communities.

Requirements for innovative approaches in Concerto demonstration activities

Priority will be given to proposals which involve trans-national technological cooperation and demonstrate innovations leading to highly improved cost effectiveness, either via improvements to individual technologies and/or via innovative integrations of technologies and/or via measurement and management of energy flows in CONCERTO communities.

In order to substantially improve the overall performance of energy systems in new and / or existing communities, CONCERTO projects should involve technologies beyond existing

⁴ see Managing Authorities: http://ec.europa.eu/regional_policy/manage/authority/authority_en.cfm

⁵ see: <http://www.interreg4c.net/index.html> and <http://urbact.eu/home.html>

state-of-the-art and/or integrated demonstration actions, which aim to be economically attractive for future replication (not only tailor-made local solutions).

The following three components are compulsory in a CONCERTO project:

1. **Renewable energies:** The projects should demonstrate the achievement of a significant **increase in the share of renewable energy** sources specifically produced for and mainly consumed by the CONCERTO community (green electricity, heating / cooling). The size of each renewable energy demonstration plant (and energy storage system where appropriate) should be clearly specified, together with the cost per MW installed. The renewable energy produced should be managed in an optimised way to fit with the local energy demands. Where appropriate, **energy storage** may be included to cover the intermittence of renewable energy supplies.

2. **Energy efficiency and savings: Buildings** in CONCERTO demonstration projects shall fulfil the following requirements:

- for new buildings: the energy consumption (per m²) should be at least 30% lower than the applicable legislation based on the Energy Performance of Buildings Directive (for 2010).
- For refurbished/retrofitted buildings: the energy consumption should achieve at least the limit values for new buildings according to the same legislation (for 2010). Demonstrations involving retrofitting are preferred to new buildings. The gross floor area of each type of building should be specified together with the predicted annual energy consumption per m², (broken down by space heating, cooling, water heating, lighting, etc), and the energy consumption targets according to national regulations for new buildings based on the Energy Performance of Buildings Directive (for 2010). Details should also be provided of the energy efficiency measures to be employed

3. **Intelligent integration:** This includes the optimisation from a technological, energy, economic and socio-economic perspective, of the entire planning for the community, i.e. energy supply configuration, energy demand management, and the **management, control and measurement** of the energy flows.

Polygeneration (optional for CONCERTO communities) involves co-generation / tri-generation and/or district heating, preferably using renewable energy sources, which should demonstrate more competitive technological solutions or innovative combinations of existing technologies. Poly-generation demonstrations should address the interaction between suppliers of electricity, heat, cold, energy carriers or other useful products and the corresponding demands. They should lead to an overall improvement in energy efficiency, in cost-effectiveness, and in the quality and security of supply. The size of each element (electricity, heating, cooling, other) of the poly-generation demonstration plant should be clearly specified, together with the cost per MWe installed. The proposal should explain how the energy delivered by the poly-generation plant will be utilised by the CONCERTO community.

Requirements for research activities in a Concerto project:

Research actions should be directly linked to the objectives of the CONCERTO project concerned, typically addressing the management, measurement and analysis of the energy flows in the community. Where appropriate, research in a CONCERTO project may also address specific issues related to the innovative technologies or integration schemes that are being demonstrated.

Funding scheme: Collaborative projects with a predominant demonstration component

Expected impact:

- To enable all relevant stakeholders to change their attitude and approach to the planning and investments for energy solutions in communities in the urban environment.

- To encourage industry to reap the benefits of sustainable solutions by investing in economically viable technology and systems to act as driving force in the use, implementation and opening of the markets for new systems. Energy service companies (ESCOs) will demonstrate the economic viability of such large scale investment in energy efficiency and optimised share of renewable energy sources.
- To set new standards in energy efficiency and integration of renewables and to drive new standards and regulations on European, national and local level.

Other information:

Definition of communities and composition of CONCERTO project consortia :

For the CONCERTO initiative, "communities" are defined as cities/towns or clearly defined areas in cities/towns, within which all relevant energy flows (including centralised and decentralised) can be identified for measurement and research / assessment purposes.

CONCERTO proposals should provide evidence of a strong commitment from the relevant authorities, local market actors and decision makers. Typical CONCERTO project consortia will also include utilities, energy technology providers, energy service providers, energy agencies, energy research and analysis teams, socio-economists and energy users. Energy service companies should be set up or be deeply implicated. The involvement of SMEs in CONCERTO projects is important, whether they participate as partners or as sub-contractors, and their roles should be clearly explained. CONCERTO project consortia are also expected to include and give a clear role to associated communities, which are committed to participate in the evaluation in view of the potential transfer and take-up of the identified "best practices" in their communities.

CONCERTO proposals should demonstrate substantial European added value from the cooperation between partners from different countries. If more than one community participates in a proposal, special emphasis should be put on the exchange of experience, and cross-site evaluation. Proposals from communities in countries or regions, where renewable energy and energy efficiency policies and commitments need to be strengthened, are particularly welcome and will be considered in the evaluation with regard to the expected impact of the proposal.

Expected results: Projects are expected to produce well monitored field experience of energy flows (supply and demand patterns), in local communities having a high percentage of renewable energy supply, together with detailed information on the performance and reliability of the innovative energy supply and end use technologies involved.

A socio-economic research component should analyse the local trends in energy costs, prices and savings, as well as the social impacts, quality and added values of the energy services provided. The projects are also expected to include analyses of technical and market risks, cost reduction potentials and future market potentials.

The results from such projects will demonstrate the high potential for improving the sustainability of energy systems in cost effective ways in local communities. They should also result in new "good practices", which can be used in the future as examples to raise the confidence of potential decision-makers, investors and final users.

In addition, the technical and socio-economic analyses from such projects will provide input to support the future development and implementation of energy policy measures, including:

- developing new regulations (e.g. for distributed electricity generation, energy efficiency),
- improving the local security of energy supplies,
- the further development of support schemes for renewable energy and energy efficiency, technologies (e.g. feed in laws, green certificate schemes, energy taxation), and for planning guidance and assessment of the potential for cost reductions for energy and technologies.

All selected projects will be cooperating in CONCERTO PLUS, an umbrella project that fosters the synergy between all CONCERTO communities. The selected projects will also participate in cross-site evaluations (with co-ordination of the impact evaluation) and dissemination activities at the level of the CONCERTO initiative envisaged in a future call.


Proposals should include a description of the activities for the full duration of the projects,

Additional information on how to prepare proposals for CONCERTO projects is available in the form of a “Guidance Note for CONCERTO Proposers” on the web site:

http://ec.europa.eu/dgs/energy_transport/rtd/7/index_en.htm

Open in call: FP7-ENERGY-2008-2

23. ANNEX II. Community Data Sheet 6 (CDS)

CONCERTO Community Data Sheet (CDS)										
	proposal No.				community					
	acronym				country					
						total population of community				
						population affected [1]				
						population affected directly by CONCERTO activities [2]				
1. Buildings										
short description [3]										
1.a. Residential buildings										
Reference number of building type [4]	Type of buildings [5]	Number of buildings of this type [6]	Total number of dwellings [7]	Total gross floor area [m²] [8]	Total costs [9]	Eligible costs per m²	Total eligible costs	Requested EC support		
						100.0	0.0	0.0		
						100.0	0.0	0.0		
						100.0	0.0	0.0		
						100.0	0.0	0.0		
1.b. Non residential buildings										
Reference number of building type [4]	Type of buildings [5]	Number of buildings of this type [6]		Total gross floor area [m²] [8]	Total costs [9]	Eligible costs per m²	Total eligible costs	Requested EC support		
						100.0	0.0	0.0		
						100.0	0.0	0.0		
						100.0	0.0	0.0		
						100.0	0.0	0.0		
				TOTAL	0.0	0.0	100.0	0.0	0.0	
2. RES and polygeneration, preferably from RES										
short description [10]										
Energy system [11]	Installed capacity [12]	Installed capacity [12]	Electricity generation [MWh/yr]	Heating energy generation [MWh/yr]	Generation of other energy carrier [13]	Total costs [9]	Eligible costs per kW or m²	Total eligible costs	Requested EC support	
PV	m²	kW _p					5,500.0	0.0	0.0	
wind turbines	kW _{el}						1,200.0	0.0	0.0	
solar thermal collectors	m²	kW _{th}					500.0	0.0	0.0	
biomass CHP connected to district heating	kW _{th}	kW _{el}					1,200.0	0.0	0.0	
sorption chiller driven by RES	kW _{th,cooling}				MW _{th,cooling}		1,200.0	0.0	0.0	
Other	Unit ?	Unit ?			Unit ?				0.0	
						TOTAL	0.0	0.0	0.0	
3. Integration: CONCERTO dimension										
short description [14]										
Integration measure						Total costs	Total eligible costs	Requested EC support		
Community energy management system										
DEMONSTRATION TOTAL						0.0	0.0	0.0		
4. Final energy balance for the CONCERTO neighbourhood										
	Current local generation from RES [MWh/yr] [15]	Local generation from RES due to CONCERTO [MWh/yr] [16]	Energy delivered in the CONCERTO demonstration buildings [MWh/yr] [17]	Energy delivered in other buildings of the CONCERTO neighbourhood [MWh/yr] [18]	Balance [MWh/yr]					
electricity					0.0					
gas					0.0					
heating oil					0.0					
district heating					0.0					
district cooling					0.0					

⁶ Please note that this form has to be integrated in the part B of your proposal

The CDS provides specification and detailed information on concrete actions per community in all mandatory areas (eco-buildings, large scale RES, integration, and polygeneration (optional), to be carried out during the proposed CONCERTO contract duration)

Yellow marked cells are to be filled in.

Figures in red marked cells are calculated directly.

The sheet is protected without any password. Additional lines can be added by removing the protection. It is recommended to keep the width of the columns.

Abbreviations

BEST building energy specification table
CHP combined heat and power
EE energy efficiency
PV photovoltaics
RES renewable energy sources

Notes

- [1] Specify the number of persons concerned by the CONCERTO initiative, including the estimated population affected by awareness measures in the CONCERTO neighbourhood.
- [2] Specify the number of persons living or working directly in the CONCERTO demonstration buildings.
- [3] Describe the main energy features of all ecobuildings and their neighbourhoods. Describe also briefly the buildings which are part of the CONCERTO neighbourhood even if they are not demonstration buildings, giving an estimation of the total ground floor area.
- [4] Specify the reference numbers given in the BEST sheets.
- [5] Specify the building type as mentioned in the corresponding BEST sheets.
- [6] Specify the cumulative number of dwellings of this type.
- [7] Specify the total number of dwellings in all buildings of this type.
- [8] The gross floor area is delimited by the outside borders of the heated spaces including the thickness of the border walls. Unheated spaces (basement, plant rooms, atria, winter gardens, space between double skin facades...) are not considered. Internal corridors, if they are separated from the staircase, are considered as heated spaces.
- [9] Specify the total building costs including design etc. for all building activities for this building type.
- [10] Describe the main features of RES and polygeneration plants using RES, focusing on their integration and the cascading effects (if the output of one component of the community energy system is the input of another component).
- [11] Specify the technology and the energy carrier used. Also specify if the energy source is a by-product from another process or the energy or material output of a cogeneration process. Lines can be added if required.
- [12] Use both columns in case of cogeneration and specify the units: kW_{el}, kW_{th,heating}, kW_{th,cooling}, m³biofuel...
- [13] Specify the units used for the generated material or energy carrier (cooling energy, biofuel...).
- [14] Specify the integration measures in the sense of CONCERTO. Examples of such measures are community energy management systems, storage units, control systems supporting building energy management...

[15] In case of existing neighbourhoods, specify the amount of energy initially generated locally from RES (before starting CONCERTO).


[16] The figures given should be consistent with the values given in part "2. RE S and polygeneration from RES".

[17] The figures given should be consistent with the values given in the BEST sheets. The electricity use for electric heating and cooling systems including heat pumps are considered in electricity.

[18] Specify an estimation of the delivered energy in other buildings of the CONCERTO neighbourhood. Since CONCERTO deals mainly with neighbourhoods and not only with single buildings, it is important to give an estimated value of this figure.

(See documents in annexed excel file entitled [CONCERTO COMMUNITY DATA SHEET](#))

24. ANNEX III. Building Energy Specification Table (BEST)⁷

Building Energy Specification Table (BEST)				
		name of building type _____ reference number of building type [1] _____ community _____ numbers of buildings of this type _____		
1. Parameter				
1.a. General information				
building type [2] semi-detached single-family house ▼ refurbishment ▼ if other _____ construction year [4] _____ for one building _____ for all buildings of this type _____ occupancy [5] _____ - gross floor area [6] _____ m ² heated floor area [7] _____ m ² cooled floor area [8] _____ m ² short description [9] _____ commitment / status [10] _____		Space for a map of the CONCERTO neighbourhood showing the location of this building type.		
1.b. Data about building fabric				
local regulation [11] _____				
	existing building (if refurbishment)	local regulation or normal practice for new or refurbished buildings	CONCERTO specifications	
average U-value of façade/external wall	_____ W/m ² .K	_____ W/m ² .K	_____ W/m ² .K	
average U-value of roof	_____ W/m ² .K	_____ W/m ² .K	_____ W/m ² .K	
average U-value of ground floor	_____ W/m ² .K	_____ W/m ² .K	_____ W/m ² .K	
average U-value of windows [12]	_____ W/m ² .K	_____ W/m ² .K	_____ W/m ² .K	
average U-value of glazings [13]	_____ W/m ² .K	_____ W/m ² .K	_____ W/m ² .K	
average g-value of glazings	_____ -	_____ -	_____ -	
type of shading device (if relevant) [14]	internal ▼	internal ▼	internal ▼	
	venetian blinds ▼	venetian blinds ▼	venetian blinds ▼	
	adjustable ▼	adjustable ▼	adjustable ▼	
	other _____ -	_____ -	_____ -	
shading coefficient calculated [15] yes ▼	_____	if yes: _____ -	_____ -	
average mechanical ventilation rate (if relevant)	_____ ACH	_____ ACH	_____ ACH	
2. Building energy performance (overview)				
	delivered energy to CONCERTO building [kWh/m ² .yr]	non-renewable primary energy factor [-] [16]	non-renewable primary energy use of CONCERTO building [kWh/m ² .yr]	additional note on figures given (data source for non-renewable primary energy factor)
electricity use (without heating and cooling)	0.0		0.0	
electricity use for space heating and/or DHW			0.0	
electricity use for cooling			0.0	
total electricity use [17]	0.0			
RES electricity generated at the building	0.0		0.0	
district heating			0.0	
heating energy from RES systems installed at the building	0.0		0.0	
gas used for space heating and/or DHW			0.0	
district cooling			0.0	
cooling energy from RES systems installed at the building	0.0		0.0	
gas used for cooling			0.0	
		TOTAL	0.0	

⁷ Please note that this form has to be integrated in the part B of your proposal

3. Building energy performance (detailed) and RES systems installed at the building

3.a. Electricity (without heating and cooling)

	for refurbishment		for new buildings			
	if available: metered electricity use of existing building [kWh/m².yr]	calculated electricity use of existing building [kWh/m².yr]	electricity use of reference building [kWh/m².yr] [18]	data source for reference value [18]	EE measure aiming at reducing electricity use	electricity use of CONCERTO building [kWh/m².yr]
lighting						
ventilation						
other:						
TOTAL for all appliances		0.0	0.0			0.0
		average installed surface for one building [m²]	installed surface for all buildings of this type [m²]	average installed capacity for one building [kW _{el}]	installed capacity for all buildings of this type [kW _{el}]	expected electricity generation [kWh/yr] [19]
PV installed at the building						
CHP using RES installed at the building						
other:						
TOTAL						0.0

3.b. Heating

	for refurbishment				for new buildings			
	if available: metered energy use for heating of existing building [kWh/m².yr] [21]	calculated heating energy needs of existing building [kWh/m².yr] [22]	heating system of existing building and energy carrier	calculated energy use for heating of existing building [kWh/m².yr]	heating energy needs of reference building [kWh/m².yr] [18] [22]	data source for reference value [18]	heating system of reference building and energy carrier	energy use for heating of reference building [kWh/m².yr] [21]
space heating								
DHW								
space heating and DHW [23]								
EE measure aiming at reducing the heating energy use					heating energy needs of CONCERTO building [kWh/m².yr] [22]	heating system of CONCERTO building and energy carriers		
space heating								
DHW								
space heating and DHW [23]								
					average installed capacity for one building [kW _{th}]	installed capacity for all buildings of this type [kW _{th}]	heating energy generated [kWh/yr] [19] [24]	heating energy generated [kWh/m².yr] [19] [24]
solar thermal collectors installed at the building								
boiler using RES installed at the building								
other:								
TOTAL							0.0	0.0

3.c. Cooling

	for refurbishment				for new buildings			
	if available: metered energy use for cooling of existing building [kWh/m².yr] [21]	calculated cooling energy needs of existing building [kWh/m².yr] [22]	cooling system of existing building and energy carrier	calculated energy use for cooling of existing building [kWh/m².yr] [21]	cooling energy needs of reference building [kWh/m².yr] [18] [22]	data source for reference value [18]	cooling system of reference building and energy carrier	energy use for cooling of reference building [kWh/m².yr] [21]
space cooling								
EE measure aiming at reducing the energy use for cooling					cooling energy needs of CONCERTO building [kWh/m².yr] [22]	cooling system of CONCERTO building and energy carriers		
space cooling								
					average installed capacity for one building [kW _{cl}]	installed capacity for all buildings of this type [kW _{cl}]	cooling energy from local RES [kWh/yr] [19] [25]	cooling energy from local RES [kWh/m².yr] [19] [25]
desiccant and evaporative cooling system using RES								
absorption chiller using RES installed at the building								
TOTAL							0.0	0.0

Each different type/category of building requires 1 separate BEST sheet, which should be kept on 2 pages only. Each BEST sheet is numbered (right upper corner). This number identifies this building category in the CDS form and all information given in this line in the CDS refers to this building type only.

Yellow marked cells are to be filled in.

Figures in red marked cells are calculated directly.

The sheet is protected without any password. Additional lines can be added by removing the protection. It is recommended to keep the width of the columns. All specific energy ratings are expressed per m² of gross floor area [6].

Abbreviations

ACH	air changes per hour
CDS	community data sheet
CHP	combined heat and power
DEC	desiccant and evaporative cooling systems
DHW	domestic hot water
EE	energy efficiency
PV	photovoltaics
RES	renewable energy sources

Notes

- [1] Specify a reference number to identify this building type in the CDS.
- [2] Specify the building type. Semi-detached one-family houses are adjacent one-family houses which have common walls.
- [3] A demonstration building receives financial support from the CONCERTO programme to implement EE measures AND to use RES. If the building is part of the CONCERTO neighbourhood and may receive financial support from the CONCERTO programme to implement either EE measures OR RES measures, it is NOT considered as a demonstration building.
- [4] For new buildings, specify the scheduled construction year. For existing buildings, specify the construction period if the construction year is not known.
- [5] For households, give the total number of persons living in all households of the residential building. For public and commercial buildings, give a range for the number of people occupying the building (from - to).
- [6] The gross floor area is delimited by the outside borders of the heated spaces including the thickness of the border walls. Unheated spaces (basement, plant rooms, atria, winter gardens, space between double skin facades...) are not considered. Internal corridors, if they are separated from the staircase, are considered as heated spaces.
- [7] The heated floor area is the area of the heated spaces, excluding the thickness of the border walls.
- [8] The cooled floor area is the area of the spaces provided with active cooling systems.
- [9] Specify the main energy features of the building type, including a short description of the RES systems located at the building.
- [10] Specify any information on the status of commitment (for instance: the project developer is part of the CONCERTO project team, the project developer has committed himself to reach

the CONCERTO targets, the building is currently being designed, the design is already completed).

[11] Specify the references of the local building code in force on 1st January 2010 defining the minimum energy performance requirements.

[12] Specify the average value of glazing and frame.

[13] Specify only the value of the glazing.

[14] Specify the characteristic features of the shading devices. Use the "other" line to give more details.

[15] Fraction of solar incident radiation that passes through the glazing and the shading device compared to the incident solar radiation passing through the same glazing taken alone. 1: value without solar shading device; 0: value with a totally opaque surface

[16] Specify the non-renewable primary energy factor for each energy carrier. The non-renewable energy is that required to supply one unit of delivered energy, taking account of the non-renewable energy required for extraction, processing, storage, transport, generation, transformation, transmission, distribution, and any other operations necessary for delivery to the building in which the delivered energy will be used. This is the definition provided in EN 15603:2008 "Energy performance of buildings - Overall energy use and definition of energy ratings". The non-renewable primary energy factor can be less than unity if renewable energy has been used.

In case many RES cooling and heating systems are installed at the building itself, the primary resource energy factor should be weighted by the share of energy generated from each type of RES. Describe the details for the calculation in the column "background information".

[17] The value given should be consistent with the value given in the CDS sheets.

[18] The reference building is the building to be compared with when assessing the impact of the CONCERTO initiative:

- for a new building, it is a building of the same type meeting the minimal energy performance required by the national or local regulation.

- for a building to be refurbished, it is the building of the same type after having been refurbished to meet the minimal energy performance required for refurbished buildings by the national or local regulation.

Specify the source (e. g. local building code) used for the definition of the reference building.

[19] Specify a cumulative value for all buildings of this type. The specific energy ratings are expressed per m² of gross floor area.

[20] For space heating, specify climate corrected values (using heating degree days).

[21] Following the definition provided in EN 15603:2008, the energy use for space heating or cooling or DHW is the energy input of the heating, cooling or DHW system to satisfy the energy need for heating, cooling (including dehumidification) or DHW respectively.

[22] Following the definition provided in EN 15603:2008, the energy need for heating or cooling is the heat to be delivered to or extracted from a conditioned space to maintain the intended temperature conditions during a given period of time.

[23] Use this line only for combined systems for space heating and DHW.

[24] Specify, for all buildings of this type:

- for solar thermal collectors, the amount of thermal energy delivered directly by the collectors to the primary circuit

- for biomass boilers or RES-CHP plants, the amount of thermal energy delivered directly by the boiler at the heat exchanger level

[25] Specify, for all buildings of this type:

- for DEC systems, the enthalpy difference between inlet and supply air, weighted by the RES fraction

- for sorption chillers, the amount of thermal energy extracted in the evaporator, weighted by the RES fraction

(See documents in annexed excel file entitled [Building Energy Specification Table](#))