Guidance Note for CONCERTO Proposers

Version 1.3 **20.07.2005**

1. INTRODUCTION

The objective of this guide is to provide additional information to the text of the CONCERTO II part of the call for proposals for indirect RTD actions (thematic priority area: 'Sustainable Energy Systems', call identifier: FP6-2005-TREN-4) and the work program of the 6th Framework program, priority 6.1 Sustainable energy systems. 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 combines large scale demonstration of energy efficient technologies in buildings supplied by Renewable energy sources, integrating energy demand with supply, in an economic perspective, in large scale applications.

3. THE 6th FRAMEWORK PROGRAMME & CONCERTO

The CONCERTO initiative is part of the 6th Framework Program (6th FP) for Research and Technological Development. Hence all rules and requirements of the 6th FP fully apply to CONCERTO proposals.. No individual Specific Targeted Research Actions (STREPS), Specific Support Actions (SSA's) or Coordinated Actions (CA's) can be accepted under the CONCERTO initiative. The CONCERTO projects can only use the Integrated Project (IP's) tool.

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 recognisable impacts,

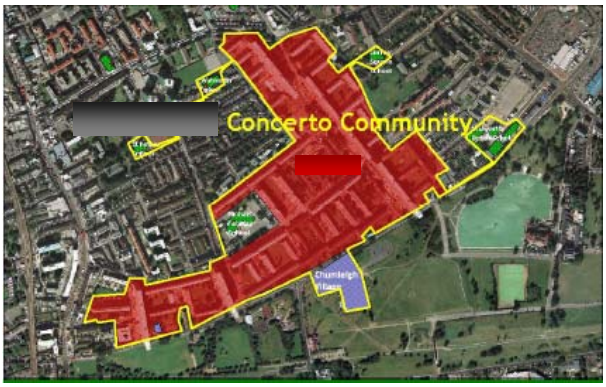
- enjoy a strong political commitment for the implementation of the projects,
- already have plans for sustainable development

4.1. Size of the CONCERTO community

The call text makes no specific reference to the size of the CONCERTO community. Nevertheless, 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. The size of the successful communities of the first CONCERTO call 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, but more typically 1000 to 5000 people were involved.

4.2. Types of CONCERTO Communities and CONCERTO boundaries

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.



An example of such an area is shown in the figure on the left.
Within the CONCERTO area, one should be able to measure and control if appropriate, all energy flows. This monitoring will verify the design calculations concerning the demand and supply patterns in the area. It should be done in such a way that figures "before" and "after" the project interventions can be directly compared.
The impacts should be recognizable and visible.

It is of course up to the project promoters to decide on where the CONCERTO boundary will be drawn and which parts of the community will be incorporated. Nevertheless, the buildings to be affected by the project should be as concentrated as possible in the CONCERTO area. If the affected buildings are scattered in a wide area, which will include a large number of non affected buildings, then the overall impact within the CONCERTO area will be reduced.

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 Community, within which the energy economy will be monitored and promoted.

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 CONCERTO II there is no such requirement. **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.

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

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

4.4. Community Data Sheet (CDS)

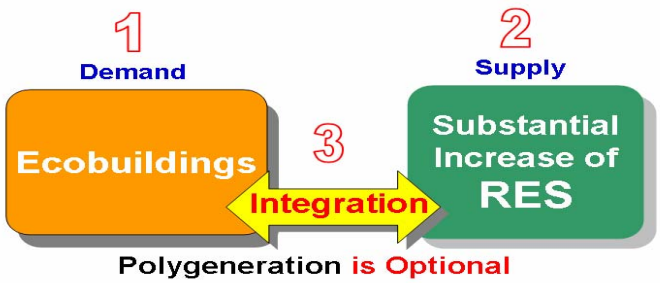
Based on the experience of the evaluation and negotiation of the projects of the first CONCERTO call, and in order to assist project promoters to structure the information related to the community and the main project components, a form was developed. This form, annexed to this guide, should be completed for each CONCERTO community[1]. It contains:

- information on the community (population, population affected) and
- its energy targets,
- overview of the buildings to be affected (number of buildings, apartments, surface area).
- overview of the renewable energy sources to be installed (capacity, production 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) with
2. New installations of renewable energy sources,
3. Integration of the Eco-buildings and renewable energy sources, through a network and controlling mechanisms.

[1] Please note that this form has to be integrated in the part B of your proposal which has to be submitted electronically only in pdf. format.

5.1. Eco-buildings

The Eco-buildings component of CONCERTO projects keeps the principles of the Eco-building priority area of the work program of 6th FP. The CONCERTO projects should be of a larger scale than a single eco-building project. Innovative ideas for single Eco-buildings projects can always be submitted in the Eco-buildings area (activity code: SUSTDEV – 1.1.3).

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 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 2006 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 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.

5.1.1. Building Energy Specification Table (BEST)

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, annexed to this guide, should be completed for **each different type of building** in a CONCERTO community[2]. 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 solar heating)
- Hydroelectric energy
- Biomass energy (including the biodegradable fraction of waste)
- Landfill gas energy
- Biogas and sewage treatment gas energy

[2] Please note that this form has to be integrated in the part B of your proposal which has to be submitted electronically only in pdf. format

- Geothermal energy
- 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.

Highly innovative single technologies to be demonstrated in the open areas of the call are recommended to be submitted in the form of STREP's to the specific technology areas.

5.3. 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 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.

In addition to the above, 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. 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.

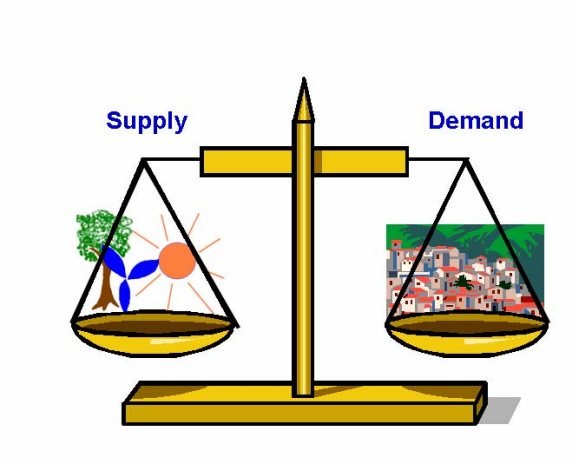
5.4. Polygeneration

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, 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 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

Energy performance data for all CONCERTO demonstration buildings (and all other buildings within the CONCERTO area) and renewable energy and polygeneration plants if part of the project shall be monitored, analysed and compared with the estimated energy performance data given in the BEST tables and data sheets of the CONCERTO contract. All differences shall be investigated and explained.

More detailed monitoring may be carried out to suit local needs, but as a minimum, the following energy flow data shall be monitored for all energy demand and supply systems (including all buildings) in the CONCERTO area, and made available for comparisons between CONCERTO communities:

- electricity demand per building / apartment on a monthly basis
- space heating demand per building / apartment on a monthly basis
- water heating demand per building / apartment on a monthly basis
- cooling demand (where appropriate) on a monthly basis
- electricity supply from each renewable electricity generator on a monthly basis
- energy supplied by each renewable heating or cooling system on a monthly basis

It is expected that each building will be monitored from the date of its completion. Where possible, the final energy demand of buildings to be refurbished should be monitored both before and after refurbishment.

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

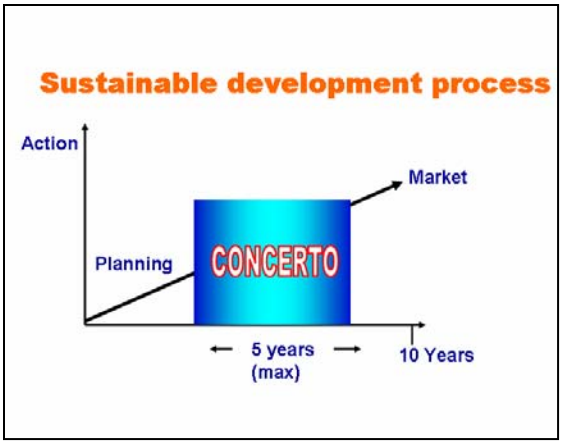
8. INNOVATION IN CONCERTO

Innovation is a prerequisite for a CONCERTO project to be supported, as is the case for any other project submitted in the 6th FP.

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 project .

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.

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

As in all other 6th FP Integrated projects, the consortium should contain at least three mutually independent legal entities established in different Member States of the EU or Associated States, of which at least 2 must be Member States or Associated Candidate Countries.

The effort of partners should be as balanced as possible. Proposals which involve technological cooperation between partners from different countries, within each one 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 explained[3].

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

12.1. BUILDINGS

In addition to the provisions on eligibility of costs set out in the Rules for Participation[4], the General Conditions to the Model Contract and the FP6 Guide to Financial Issues, the eligibility of costs for improving the energy performance of buildings in CONCERTO projects is determined on the following basis:

1. For new buildings, the eligible costs are those which are directly related to the "additional energy efficiency measures" which are implemented to make the building **more energy efficient than would have been required under the applicable national legislation**.
2. For refurbished buildings, the eligible costs are those which are directly related to the "additional energy efficiency measures" which are implemented to make the building **more energy efficient than would have been the case for a normal refurbishment** of such a building. (ie: it is assumed that in a normal refurbishment, the insulation, fenestration, draft proofing, lighting, heating and control systems would have been modernised, but without special attention being given to achieving above average energy efficiency).
3. Priority will be given to **energy efficiency measures which are likely to be replicated** on a large scale in the EU. Removable equipment or appliances (eg: refrigerators) are not eligible.

For each specific building, the eligible costs per m^2 of gross floor area are determined with reference to the estimated value of the energy which the additional energy efficiency measures will save. The estimated value of the energy saved is determined on the basis of the estimated reduction in the

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

[4] Regulation (EC)No 2321/2002 of the European Parliament and of the Council of 16 December 2002 concerning the rules for the participation of undertakings, research centres and universities in, and of the dissemination of research results for, the implementation of the European Community Sixth Framework Programme (2002-2006); OJ L 355, 30.12.2002, p. 23.

overall energy demand of the building, calculated on the basis of the "additional energy efficiency proposed measures" over a period of max 15 years.
The eligible cost per m^2 of gross floor area is presented for each building in the CONCERTO CDS (document annexed to guide).

12.2. Renewable energy and Polygeneration

The eligible costs for renewable energy and polygeneration systems are related to the MW of the plants installed.

CONCERTO I
Indicative eligible costs

- Renewable Energy Systems

all RES	1000 €/kW installed
Except PV	5000 €/kW installed
Solar Collectors	400 €/m2 installed

- Energy efficiency measures

Building		extra ecobuilding cost
		€/m2
Residential	new/refurbished	25-50 €/m2
Office	new/refurbished	40-80 €/m2

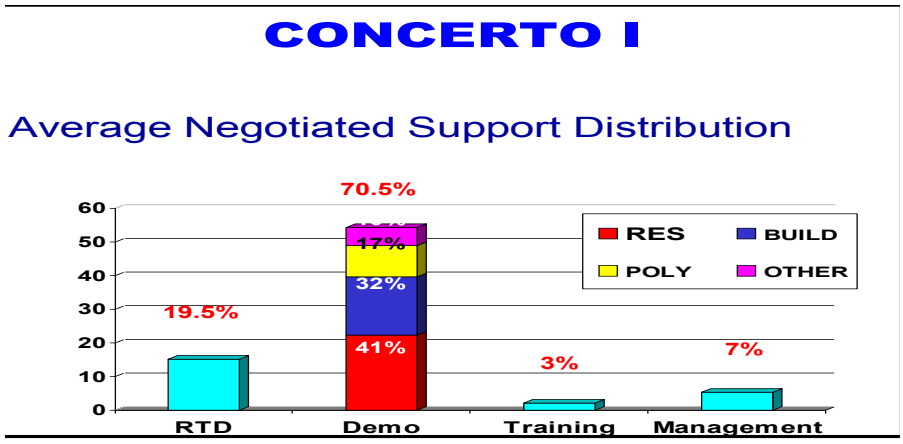
A table on the left presents an overview of the range of eligible costs of the RES and eco-building components of the negotiated CONCERTO I contracts. While reading these indicative values, one should take into account that although the specifications of many of the CONCERTO I buildings were better than the minimum values requested in the Eco-buildings in CONCERTO II, no compulsory minimum buildings specifications were set by the Commission in the first call of CONCERTO.

13. SUPPORT DISTRIBUTION

The structure of a typical CONCERTO II project is presented in the FP6 Work Programme for SMT actions (section 6.1.3.1.5) as follows :

CONCERTO projects should involve the full menu of activities, typically including

- about 70% for ***demonstration*** (of the integration of Renewable Energy and Energy Efficiency technologies),
- up to about 20% for **research** (associated communities are welcomed to participate if appropriate), including the development and analysis of innovative technology integration schemes; technology and market/economic risk assessment; socio-economic analysis; and performance management, monitoring and optimisation of energy flows at the level of local communities,
- up to about 5% for the promotion and ***dissemination*** of project results, including the involvement of "associated communities".
- up to about 2% for ***training*** (optional)
- up to about 7% for ***management***



The average support distribution of the negotiated projects of CONCERTO I can be seen in the graph on the left. As expected most of the support was allocated to the demonstration activities, while research activities (monitoring included) represented almost 20% of the support.

14. TOTAL INDICATIVE BUDGET

The indicative budget available for the "Sustainable energy systems" in the 4th call of the 6th FP is 125M€. This will be distributed amongst the open areas for proposals, namely the Cost-effective Supply of Renewable Energies, Eco-buildings, Grid issues, Polygeneration, CONCERTO II, Thematic promotion and dissemination and partially to the CIVITAS Dissemination and Best Practice Transfer Action.

There is no pre-allocation of budget for the above areas.
The negotiated average level of support per community project in the first call of CONCERTO was approximately 3M€. For CONCERTO II, it is estimated that about 20 CONCERTO communities will be supported.

15. EVALUATION CRITERIA

Please see Annex B of the work programme for the applicable criteria including their individual weights and thresholds and the overall threshold for integrated projects. The normal 6th FP evaluation criteria for integrated projects also apply for CONCERTO. These are:

- Relevance
- Potential impact
- Scientific and technological excellence
- Quality of consortium
- Quality of management
- Mobilisation of resources

Priority, between excellent CONCERTO proposals, will be given to**:**

- Replication potential
- Level of ambition
- Cost effectiveness of the impacts

- Credible quantified benefits for the local community and its citizens
- Credible evidence of sustainability

16. CONCERTO I vs CONCERTO II – MAIN DIFFERENCES

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

- The text of the CONCERTO II call is revised and expanded in order to make it more detailed and clear for the potential applicants.
- Preference is given in CONCERTO II to the refurbishment/retrofitting of buildings, rather than to new buildings
- CONCERTO II has more demanding eco-building specifications. Minimum specifications are set for both refurbished/retrofitted and new buildings.
- The specifications of the CONCERTO II buildings will be compared to National building standards in the relevant Member State
- New forms are introduced and should be completed to provide a structured and easily comparable overview of the main demonstration project components and the Eco-buildings.
- There is no preference for the number of communities per proposal. Proposals involving only one community are welcomed in CONCERTO II.
- Only electronic submission of the proposals.

17. SOME WEAK POINTS OF THE CONCERTO I 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

- Become familiar with FP6 rules (Cordis site)
- Read call text carefully
- Read Guide for Proposers for Integrated projects (in Cordis site)
- Read CONCERTO Guide
- Find complementary partners and make a planning for the distribution of effort and budget.
- Complete Community Data Sheet (CDS) and Buildings Energy Specification Table (BEST) (documents annexed to guide)
- Discuss principle with the National Contact Point (list in Cordis site) or EC officers

19. OTHER ISSUES

19.1 Project summary[5]

It is recommended to include a stand alone text of no more than 2 pages summarizing the work to be done in each CONCERTO 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 FP6-TREN-4 call, the submission will be only electronic, using the Electronic Proposal Submission System (EPSS) via Cordis (www.cordis.lu).

The structure of proposal is the following:

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

No paper submission will be possible. (In exceptional cases, however, a co-ordinator may request permission from the Commission to submit on paper. For details please see the call text.) The

[5] 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.

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.

20. 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

CONCERTO guide:

http://europa.eu.int/comm/dgs/energy_transport/rtd/6/index_en.htm

ManagEnergy site

This site is containing among others the slides and video recordings of the info day for the presentation of the FP6-TREN-4 call, held in Brussels on 17/6/2005

www.managenergy.net
www.managenergy.tv

FP6 Cordis homepage:

fp6.cordis.lu/fp6/home.cfm

Helpdesk:

tren-fp6@cec.eu.int

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

ANNEX I

CONCERTO II call text (from page 24) of the Work program 6.1 Sustainable Energy Systems.

CONCERTO II

[Activity Code : SUSTDEV-1.1.6]

Proposals for Integrated Projects (IP's) are invited for support under the co-ordinated initiative "CONCERTO II", which is a joint initiative between the research activities of Large-scale integration of renewable energy sources into energy supplies, Eco-buildings and Polygeneration (optional), described in sections 6.1.3.1.1.1, 6.1.3.1.1.2, and 6.1.3.1.1.3.

*Note: Proposers are reminded that IP proposals for Demonstration projects should include a description of the activities for the **full duration** of the project, and chapters of the proposal should **not exceed** the lengths recommended in the Guide for Proposers, which is associated with this Call. 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://europa.eu.int/comm/dgs/energy_transport/rtd/6/index_en.htm*

Objectives and problems to be solved:

The CONCERTO initiative should support research and demonstration focused on optimising the sustainability of energy systems in local communities through the innovative integration of RE technologies directly into Eco-buildings, electricity distribution networks, district heating systems, and other energy demanding systems, with advanced thermal and electrical storage and improved energy efficiency, as well as on the measurement (including remote metering) assessment design and management of energy flows.

In particular, participation in a CONCERTO project should permit communities to demonstrate sustainable energy solutions in which energy efficiency and renewable energy sources are integrated from an economic perspective, and which deliver high quality energy services.

***Innovation* in demonstration actions:**

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. Innovation is also expected with regard to the measurement and management of energy flows in CONCERTO communities.

Emphasis on communities in CONCERTO:

CONCERTO is a major European initiative which will support the demonstration of new and innovative technical solutions making local communities more sustainable and highly energy-efficient. Such communities should be in clearly defined geographical areas or zones (cities, towns, rural areas or islands), within which all relevant energy flows (including centralised and decentralised) can be identified for measurement and research / assessment purposes. In each community, politicians, planners, developers, industry and citizens should actively cooperate to optimise the sustainability of their energy flows.

Demonstration Actions

1. In order to substantially improve the overall performance of energy systems in new and / or existing communities, CONCERTO projects should involve integrated demonstration actions, which are economically attractive for replication. The following three components are compulsory in a CONCERTO project, and proposals should include detailed information concerning the specific costs and expected performance of each component :A significant ***increase in the share of renewable energy*** sources consumed by the CONCERTO community (green electricity, heating / cooling)Where appropriate, ***energy storage*** may be included to cover the intermittence of RE supplies.

The size of each RE demonstration plant (and energy storage system where appropriate) should be clearly specified, together with the cost per MW installed. The renewable energy produced by a CONCERTO community should, as far as possible, be utilised within the CONCERTO community and should be managed in an optimised way to fit with the local energy demands. The approach adopted by the CONCERTO

community, which aims to increase the share of RES consumed within its community, should be clearly explained.

2. ***Eco-buildings*** focus on innovative technological solutions within the context of an holistic approach to the design and operation of new or retro-fitted buildings, and should demonstrate ambitious reductions in energy consumption compared with national regulations for new buildings based on the Energy Performance of Buildings Directive, together with attractive payback periods. For CONCERTO, priority will be given to innovative demonstrations involving the refurbishment or retrofitting of existing buildings, aiming to achieve a lower energy consumption per m2 than would be achieved by a new building which meets national regulations for new buildings based on the Energy Performance of Buildings Directive in the same location. Innovative demonstrations of highly cost effective new buildings, which achieve overall energy consumptions per m2, that are substantially lower (lower by at least 30%) than those specified in national regulations for new buildings based on the Energy Performance of Buildings Directive, may also be accepted.

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. Details should also be provided of the energy efficiency measures to be employed

3. ***Intelligent management, control and measurement*** of energy supplies, including local distribution grids and distributed generation, together with efficient energy demand management

4. ***Polygeneration*** *(optional for CONCERTO communities)* involves CHP and / or district heating, preferably using RE sources, which should demonstrate technological solutions which improve the competitiveness of innovative technologies or innovative combinations of existing technologies. Polygeneration 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 polygeneration demonstration plant should be clearly specified, together with the cost per MWe installed. How the energy delivered by the polygeneration plant will be utilised by the CONCERTO community should also be explained.

Short to medium term Research actions:

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.

Composition of CONCERTO project Consortia *:*

CONCERTO proposals should demonstrate substantial EU added value from technological cooperation between partners from different countries. 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. The involvement of SME's in CONCERTO projects is important, whether they participate as partners or as sub-contractors, and their roles should be clearly explained. Proposals from communities in countries or regions, where renewable energy and energy efficiency policies and commitments need to be strengthened, are particularly welcome.

CONCERTO project consortia are expected to include Associated communities, which participate in the project, but do not receive EC support for demonstration actions in their own community. Such Associated communities should have a clear role in the project, contributing to the design, development and implementation of the technology demonstration actions, as well as to the research, analysis, promotion, and dissemination of results. They should also be committed to developing local policies and plans for increasing the sustainability of the energy systems in their own communities.

Structure of a typical CONCERTO project

CONCERTO projects should involve the full menu of activities, typically including

- about 70% for ***demonstration*** (of the integration of Renewable Energy and Energy Efficiency technologies),
- up to about 20% for **research** (associated communities are welcomed to participate if appropriate), including the development and analysis of innovative technology integration schemes; technology and market/economic risk assessment; socio-economic analysis; and performance management, monitoring and optimisation of energy flows at the level of local communities,
- up to about 5% for the promotion and ***dissemination*** of project results, including the involvement of "associated communities".
- up to about 2% for ***training*** (optional)
- up to about 7% for ***management***

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 for the technologies and approaches adopted.

The results from such projects will demonstrate the high potential for improving the sustainability of energy systems in cost effective ways in local communities, which can be achieved by addressing energy supply and demand with a fully integrated approach. 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, which integrate technology, social and economic aspects, will support the future development and implementation of energy policy, by providing well documented field experience which can be used as a basis for

- developing new regulations (e.g. for distributed electricity generation),
- improving the security of energy supplies in future energy markets,
- the further development of support schemes for Renewable Energy and Energy Efficiency technologies (e.g. feed in laws, green certificate schemes, energy taxation),
- planning guidance, and
- energy cost and price reductions.

ANNEX II. CONCERTO COMMUNITY DATA SHEET (CDS)[6]

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

Guidance information on how to complete the CONCERTO Community Data Sheet following the numbers in [x].

[1] total population of city / municipality / region
[2] population affected in the defined CONCERTO area (number also used for [18] +[19])
[3] local energy prices to be paid by the consumer without base and standing charges
[4] identify the number of the BEST sheet
[5] total number of buildings foreseen for this building category
[6] total number of dwellings for this building category
[7] total conditioned gross floor area for this building category, same information as under [1] in the BEST sheet
[8] total building costs including design etc. for all building activities for this building category
[9] total eligible costs related to extra investment for achieving the CONCERTO specification as indicated in the BEST sheet
[10] total eligible costs per m² ([9]/[7])
[11] requested EC support per building category / RES source / polygeneration plant / specified integration measure
[12] installed capacity for all potential RES applications of the CONCERTO community, except for solar collectors, for which the indicator is m²
[13] production of green electricity in/for the CONCERTO community per selected RES source
[14] production of renewable heat/cooling in/for the CONCERTO community per selected RES source
[15] describe the various CONCERTO integration measures and provide information on their costs, select and name the indicator relevant for [16]
[16] indicator for integration measure
[17] grand demonstration total costs including all demonstration costs for the defined CONCERTO community (sum of costs for Eco-buildings, large scale RES, polygeneration, CONCERTO integration)

important: the sum of all grand total eligible demonstration costs [9] per proposal must be identical to the total demonstration costs as given in the budget table A3.1 of the proposal forms for the full duration of the planned project. The same applies for the grand demonstration total for requested EC support.

[18] provide information on the total conventional energy consumption of the defined CONCERTO community at present (if new buildings are to be demonstrated, then the conventional energy consumption would be the result of the 2006 new regulations, for existing buildings, the actual energy consumption is used)
[19] provide information on the total conventional energy consumption of the defined CONCERTO community after CONCERTO, taking into account the effects of all foreseen CONCERTO interventions, the basis of/for the selected indicators must be the same (m² of all buildings in the defined CONCERTO area, number of capita, etc

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

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

Annex III. Building Energy Specification Table (BEST)[7]

Each different type/category of building requires 1 separate BEST sheet, which should be kept on 1 page 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.

The BEST is divided in 4 parts:

Part 1 provides:

1.1 information on the building category with the total area to be realised for this category during CONCERTO duration

1.2 information on the local climate

1.3 specifications of building elements

Part 2 provides:

2.1 information on the energy performance of the buildings of this category, split in the different sectors of energy demand. The energy demand is final energy (not primary energy) expressed as kWh/m^{2}yr of total gross used conditioned floor area and includes all system losses. Passive renewable energy sources are taken into account, f.e. solar gains, but the effects of active renewable energy sources, f.e. solar collectors, PV, heat pumps, biomass, etc. must not be deducted in this part.

2.2 information on the RES contribution for this building category only. All costs related to the RES installations specified in this part will be found in the CDS under Large Scale RES.

Part 3 provides information on the building energy use by deducting the contribution through RES from the energy demand defined under point 2.

Part 4 asks for information on other additional national indicators for energy performance of buildings. Although other national indicators may exist, part 1-3 of BEST is expected to be completed.

Guidance information on how to complete the BEST following the numbers in [x].

[1] give the total conditioned gross area of this building category to be realised during CONCERTO duration. For the building category, select between 'residential retrofitted', "residential new", "tertiary retrofitted", " tertiary new" or "other".

[2] if others is selected in the field above, name the type of building

[3] heating degree days should be calculated for a base temperature of 16^{o}C

[4] the ventilation rate includes infiltration and ventilation needs by use

[5] provide information on the existing building, such as properties of its elements, its actual energy consumption and contribution through already existing RES elements (if any)

[6] information given in the national regulations (2006) for new buildings. This column must also be filled out in case of retrofitting of building stock.

[7] detailed CONCERTO specifications

[8] for the calculation of energy savings and RES contribution, only column [6] and [7] should be used. This calculation also applies for existing buildings, which will be refurbished. Here the energy savings through the refurbishment interventions are measured against a newly built replacement building.

[9] indicate the units for other national energy performance indicators and

[10] describe the range of these indicators

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

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