



CONCERTO Premium

CONCERTO Policy Monitoring Guide

Date of preparation: 03/08/2012



CONCERTO is co-funded by the European Union under the Research Framework Programme

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1. Introduction

Low carbon neighbourhood projects, such as CONCERTO projects, automatically always have political implications, whereas it could be argued that an energy efficient construction or refurbishment project that only addresses one building, may be considered as essentially private and hence of limited political impact.

Neighbourhood projects always contain a component of interaction between different stakeholders or different spatial interests, hence have political implications.

Such projects are usually being influenced by local, regional and local political aspects at various levels: Perhaps because the municipality acted as the main investor or has been particularly proactive in the planning process; or perhaps a CONCERTO project was promoted as a show case for showing the implementations of certain energy policies or targets at local or national level. On the other hand, perhaps certain national laws posed barriers to project progress, but solutions were found to deal with these.

It is the aim of this document to deal with the capturing of policy-relevant aspects.

2. Why policy monitoring?

The ultimate reason why CONCERTO-projects obtained EU-funding is that these projects are supposed to act as practice grounds for developing strategies, techniques, skills and technologies that will live on beyond the CONCERTO-project and that help replicate results in other similar projects. One important aspect is to identify mistakes, problems and barriers and helping future projects to avoid these or overcome them successfully, by providing already tried and tested solutions.

However, replication will not happen automatically. Policy monitoring has the aim of identifying contextual factors that contribute to successful projects. The hope is that by understanding these an appropriate framework can be encouraged, that makes successful replication more likely.



3. Defining “policy”/ “politics”/ “political”...

This guide covers a relatively wide range of issues that are being drawn together under the header “policy monitoring”. It is therefore useful to look at the roots and definition of the word policy.

In a very general sense the term “Politics” (from Greek πολιτικός, politikos "of, for, or relating to citizens") is a process by which groups of people make collective decisions. The term is generally applied to the art or science of running governmental or state affairs, including behavior within civil governments, but also applies to institutions, fields, and special interest groups such as the corporate, academic, and religious segments of society. It consists of "social relations involving authority or power" and refers to the regulation of public affairs within a political unit, and to the methods and tactics used to formulate and apply policy”¹.

4. What are we monitoring?

Issues to be monitored broadly fall into two categories

1. The use of political instruments (regulatory, economic, awareness-related or otherwise of strategic relevance)
2. The need for political intervention (technical barriers, acceptance issues, financial barriers and issues, other barriers)

Strategic and awareness related aspects relevant to concerto projects

These are measures that facilitate project implementation, e.g. by improving awareness and support amongst all involved, such as the defining of appropriate visions, targets, strategies as well as the forging of useful alliances.

Legislation and regulatory measures touched on by concerto projects:

The following types of legislation have been identified as being relevant to the implementation of sustainable neighbourhood projects:

- Building control/ building regulations
- Spatial planning/ development control
- Energy planning/ energy supply strategies

¹ <http://en.wikipedia.org/wiki/Politics>

- Other policies and regulations influencing the project, but not directly related to energy

All of these can act as vehicles for the implementation of EU-legislation and standardization.

Economic aspects that are particularly relevant to concerto projects are:

- Business models
- Financial contributions by private individuals
- Financial incentives (especially tax incentives)

5. What is policy monitoring (what do I have to do?)

As part of the data gathering for an overarching evaluation of all CONCERTO project activities, information regarding the political aspects explained in Section 4 will have to be gathered. CONCERTO Premium has devised a questionnaire in word format that can be filled in electronically. Technical monitoring and potentially also social monitoring are ongoing activities that should ideally carry on throughout the project life cycle, with several rounds of data capture. They form integral parts of good projects, ensuring optimum performance and their long-term success. Policy monitoring on the other hand is expected to be a one-off activity, providing a snapshot of the political context at a given point in time. While it may bring some benefits to the project itself in helping to identify barriers and success factors more clearly, it is even more important outside the boundaries of the project itself: when comparing a number of projects or seeking to replicate certain achievements.

The monitoring concentrates in particular on local policy measures, but some questions also address national and regional policies, which often set the framework for local policies. In the following sections the subjects covered by the questionnaire will be explained, providing context as to why these are relevant and also providing some guidance as to what type of information could be relevant.

6. Strategic and awareness measures

6.1 Memberships

Memberships in relevant City-networks can act as powerful drivers for change, as they provide conduits for exchanging best practice and innovative ideas within essentially similar organisations. They help their members to stay up-to-date on relevant topics through newsletters and tailored information material and often also by fostering personal contact between people in similar roles in meetings and workshops. There are large numbers of relevant networks at international level as well as within each country. Within the context of international projects like CONCERTO it is the international ones that will be of particular interest.

6.1.1 Memberships in international networks

The following organisations have been identified as the most common and most relevant for CONCERTO-municipalities but we are also interested in knowing if you are a member of other international networks:

- ICLEI
- Covenant of mayors
- SCI-Network
- The CIVITAS Initiative
- Climate alliance
- European Energy Award

6.1.2 Memberships in LOCAL/ REGIONAL initiatives

It is common for municipalities to have strategic alliances with other surrounding municipalities or to be a member of local initiatives. Again, these can help the impetus for change. An example would be Gleisdorf (Austria) where the regional energy association ERWG was important – it was created in 1996 in order to spread a sustainable culture at municipal level. Often such alliances serve just one clearly defined purpose, such as procurement, or even just procurement of energy, managing an (energy) micro-generation project or organising refuse disposal. Especially, where such an alliance was instrumental in implementing a CONCERTO project, the role of the alliances should be explained and web links provided, if available.



6.2 Energy Policies and Strategies

This covers the most important elements of the climate change and energy policy in the municipality. If relevant policies or documents are provided in the country's own language, this will allow others to find the primary source for further information. This can occasionally be difficult, if only translated names are being used in reports written in English. However, links to English translations of the relevant documents should also be provided, where available. More concrete strategic measures such as action plans, setting up of budgets or individual strategic action may also be mentioned here. It may be necessary to make reference to national policies that should also be listed in the country's own language.

6.3 Visions, Targets

These are important in showing the dedication of a municipality. Clear visions and targets aid successful communication inside the authority and when reaching out into the community. They also serve as a fix point against which to compare actual progress. These are seen in a general sense, i.e. they may go beyond the CONCERTO project.

6.3.1 Vision or Catch Phrase / Slogan

Having a clearly defined vision, ideally encapsulated in a memorable catch phrase, helps to communicate the aims and objectives of a project easily to a wide range of stakeholders. While this may sound like a mere marketing exercise to spread general awareness of the project, it will also help busy people in strategic positions remember the project at crucial points in time. Ideally, it can help those involved to remember what is important and to stay focused in difficult periods of the project. Many CONCERTO-projects or cities hosting these do indeed have a catch (E.g. Geneva's catch phrase was: "2000 Watt society without nuclear"). The background of the vision or catch-phrase and why it was chosen should be explained.



6.3.2 Targets

In general, municipalities are used to having targets set by their national governments or by themselves. More and more municipalities are now setting their own climate change or energy related targets. Targets may typically relate to the following topics:

- reduction of CO₂ emissions,
- reduction of energy consumption,
- increase in share of renewable energy in the energy mix,
- increase in level of energy self-sufficiency;
- energy efficiency targets., non-energy related targets (e.g. regeneration of run-down area).

A commonly used term for a good target is the S.M.A.R.T target – i.e. a target that is Specific, Measurable, Achievable, Realistic, Timetabled. Consequently, in order to understand the targets that municipalities have set themselves these should be explained in terms of

- the percentage of reduction/ increase or absolute amount to be achieved
- the timeframe by when they are to be achieved
- what the baseline is against which to compare the target.

An example would be: City X has set a target to reduce its CO₂ emissions by 30% by 2020. It is also important to understand why a target has been set; hence any background information available is valuable.

Reasons for targets might be legal requirements at local, national, EU level, or other motivations such as air quality issues/improving the image of a neighborhood ...).

Example: “all building related emissions (residential and commercial) and transport emissions to be reduced by 60% by 2035, compared against emissions in 1990”.

7. Regulatory measures

7.1 Spatial planning

Spatial planning departments can influence the energy performance of construction projects, by stating conditions that must be fulfilled in order to be allowed to build. There



are various ways how planning departments can state such conditions for new projects. There are also wider strategies and actions that a planning department might use in order to ensure better energy performance. This could also involve strategies for reconciling sustainability/ renewable energy with heritage and or nature conservation concerns (listed buildings, heritage conservation areas, nature reserves), strategic alliances with surrounding municipalities in place (e.g. close cooperation could help to balance heat demand for larger heating networks...) etc.

At a macro level spatial planning influences where construction activities take place and whether these locations encourage or discourage the use of renewable or low carbon energy generation. This could for example result in

- Obligations to locate new developments near heat-sources for district heating
- Obligations to connect to district heating or private wire / (localised electricity grids)

Once the location has been agreed in principle the spatial planning authority may or may not be able to attach conditions such as these:

- Specific energy performance requirements e.g. building permission can only be obtained for buildings exceeding building regulation standards by 20% or for buildings meeting PassivHaus standard.
- Planning obligation to generate on-site renewable energy for a new building or development (e.g. 10% of total predicted demand of a new building)
- Requirements regarding building orientation (e.g. to either push for optimum solar access or to optimize density, orientation to roads etc., which may prevent optimum solar access)
- Obligation to submit an energy strategy (that predicts probable energy demand and suggests solutions on how to meet this demand) together with the planning documents for new projects
- Use of sustainability assessment systems (e.g. LEED, BREEAM...) as a way for the planning department to specify sustainability targets.

These measures are directed outwards at those applying for planning permission. In addition, planning departments will have internal strategies that guide their decision making. In order to ensure that decisions are being made in favour of the most sustainable option a range of tools and techniques such as the below are being used by municipalities:

- Maps that show potentials for renewable energy technologies (supply)
- Energy models or maps for local energy demand (demand density)



- GIS is being used for the mapping of the above potentials
- Decision making based on an analysis of local energy potentials and demands, i.e. decisions are generally "evidence based"?

The examples given here are not exhaustive, nor are all municipalities able to make use of the measures and techniques stated. They may be bound by adverse rules at national or sub-national level.

The aim of policy monitoring is to draw out similarities, differences and good examples from the planning context in which the CONCERTO Projects found themselves in.

7.2 Building Regulations

Building regulations are those regulations that ensure that any new or altered building meets certain technical requirements. Traditionally these have concentrated on soundness of structure, and health and safety related aspects. One of the challenges of looking at construction issues across national borders is that building regulations are different from one country to the next, not just in content, but also in the way they are being made. However, from a high level perspective, Pedro, J.B. et al. (2010) found that there are nevertheless broadly speaking similarities:

- at least the framework for building regulations is set at national level, though the actual regulations may be defined at subnational level (e.g. in Germany each federal state has its own building regulations)
- the topics covered are generally the same in all EU-countries



Table 1: from Pedro, J.B. et al. (2010)

Table 2: Who sets the technical building regulations?

	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	
Central authorities	■	■	■	■	■	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Regional authorit.	■	■								■				■									■		■		■	
Local authorities		■						■						■	■	■	■				■							
No information											■	■																

Building regulations are also the most important measures to define energy requirements for buildings. Since coming into force of the first version of the EPBD, all building regulations now have to also contain requirements for energy performance for new buildings and major refurbishments. Comparing these requirements across countries is highly desirable for a number of stakeholders, for example landlords and investors with international property portfolios, the EU and individual member states, who want to compare how well they are doing in comparison to their neighbours. As energy performance values depend on number of variables, such as climate severity, local calculation procedures, metrics used, system boundaries, primary energy factors etc., comparisons are extremely complex and can at this stage only be done by artificially eliminating some of the variables. It is hoped that further progress in CEN standardization will eventually improve this situation, but for now such comparisons have to remain predominantly a matter for scientific research, less so for policy monitoring. (Some relevant literature is provided in the Reference section.) However, there are certain energy related aspects that are being addressed by building regulations in some countries, but not others. In order to identify improvement potentials information regarding these should be captured in order to compare international practice. These aspects are: summer over-heating, the requirement for more renewable energy generation as well as increasing electricity consumption in buildings, trigger points for energy efficiency improvements for existing buildings.

7.2.1 Summer overheating

Is summer overheating behavior being modeled? – is proof necessary that no excessive over-heating will occur?

7.2.2 Renewables

Building regulations may contain direct or indirect obligations to use on-site or nearby renewable energy sources, though this seems to be still relatively uncommon. Often the obligation is introduced by incorporating it into the tool used for calculating energy demand for building regulations. An example for an explicit obligation is the German “renewable Heat Ordinance”, reflected in German building regulations, by incorporating relevant obligations in the EnEV calculation tool, which has to be used in order to gain building regulations approval. In the UK the tool used for residential buildings (SAP) can in typical scenarios only achieve the necessary score, if renewables are included, even though there is no explicit obligation – hence a possible answer could be: “energy calculations for new buildings can only achieve the results required by building regulations, if at least 20% of energy for heating and hot water are generated by RES”. There may be differences in depending on whether the project is a new-build or a refurbishment.

7.2.3 Lighting & Plug-In Appliances

Electrical energy consumption by plug-in appliances is on the increase as people fill their homes with ever more gadgets to perform household chores or for entertainment (TV, cooker, washing machine, computer etc.). Though these do not form a permanent part of the building, and are particularly dependent on user behavior, both in their number and related use patterns, their energy consumption happens within the building and electricity has to be supplied through the distribution system of the building. Their energy consumption is typically not being covered yet by building regulations, though some make provisions for calculating it.

Therefore the question here is whether and in how far building regulations do cover energy consumption from electrical uses. As this type of energy consumption is particularly hard to predict, it would also be of interest to know how it is included, e.g.



- based on statistical values
- based on a particular algorithm
- ...

7.2.4 Trigger points for energy efficiency improvements to existing building stock

While energy efficiency for new buildings and major refurbishments are a core theme of building regulations and have to be covered by all Member States it is a critical area for existing building stock. The question here is whether obligations exist in building regulations (or other associated regulations) to improve energy efficiency of existing buildings outside of major refurbishment projects. Trigger points could be for example:

- If a roof is being replaced or substantial works are taking place on the roof, roof insulation has to be brought up to a certain standard.
- If parts of the heating system need to be replaced (e.g. following a safety inspection), the pipework has to be insulated as well or an efficient boiler needs to be installed.
- If substantial work is being undertaken on the façade, the relevant wall needs to be insulated
- If a window is being replaced, it has to be replaced with an energy efficient one
- If a flat is being let out, it needs to satisfy certain minimum energy efficiency criteria

7.2.5 Metric used in energy related building regulations

Usually, as part of obtaining building regulations approval the likely energy consumption of a building needs to be calculated using an approved methodology, tool or simulation. However, not all countries calculate the same – some calculate final energy demand and impose limits on it, others calculate primary energy demand or even the resulting CO₂ emissions. This makes benchmarks and performance values difficult to compare. There is no current overview available on which metric is being used, that covers all CONCERTO-Countries. The aim is to establish such an overview to help understanding energy figures from different countries.



7.3 General Energy-related Policies and Regulations

There may be more general energy policies and regulations that affect building projects but that are not part of building regulations or spatial planning regulations. These may be policies relating to

- Energy distribution systems, in particular access to the electricity grid
- Feed-in tariffs

7.4 Other Legislation – Non Energy Related.

Legislation that is not energy-related in itself may have an impact on the energy strategy of a construction project. This could be general environmental legislation or more specifically legislation related to water protection, air quality etc. which may have influenced the planning of a CONCERTO project. Such legislation could be in favour of a more sustainable energy solution or adversely affect it. Information on these should therefore also be covered.

An example could be "a biomass combined heat and power plant would have resulted in unacceptable road movements from supply lorries, causing noise and air pollution. Therefore PV was used to reduce CO₂ emissions".

8. Economic Measures

8.1 Business Models

Finding the right business model for a RES/ EE project is crucial for its implementation. On the other hand, projects can fall through, if no viable model can be found. Disseminating information on good business models will help improve the odds of success for future RES/ EE projects. It is therefore of interest to understand which business model was used in a given CONCERTO project.

For example, one of the following models or a combination thereof may have been used:

- PPP – Public Private Partnership: involves a contract between a public sector authority and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project. In general, renewable energy investments have a substantial upfront cost, which challenges project budgets. A public private partnership can help by shifting

up front cost and risk to a private organization. The partnership could be organized as an ESCO.

- ESCO or ESCo - an energy services company: a commercial business providing a broad range of comprehensive energy solutions including designs and implementation of energy savings projects, energy conservation, energy infrastructure outsourcing, power generation and energy supply, and risk management.
- ESC - Energy Supply Contracting: An Energy Service Company (ESCO) supplies useful energy, such as electricity, hot water or steam to a building owner (as opposed to final energy such as pellets or natural gas in a standard utility contract). The ESC model is particularly well suited for generating electricity and heat from RES.

EPC - Energy Performance Contracting: An ESCO guarantees energy cost savings in comparison to a historical (or calculated) energy cost baseline. For its services and the savings guarantee the ESCO receives performance based remuneration.

- IEC - Integrated Energy Contracting: The IEC model is a hybrid of ESC and EPC aiming to combine supply of useful energy, preferably from renewable sources with energy conservation measures in the entire building. The model is currently being piloted in Austria and Germany.
- Leasing enables a building owner to use a renewable energy installation without having to buy it. The installation is owned or invested in by another party, usually a financial institution such as a bank. Leasing can be a central component of the business model of an ESCO or of a company that introduces a new technology to the market.
- BID - A Business Improvement District: a defined area within which businesses pay an additional tax or fee in order to fund improvements within the district's boundaries. The improvements could also include energy-related improvements.
- A housing improvement district works similarly to a business improvement district, but tackles housing improvements. The concept has been trialed in Hamburg.
- PACE - Property Assessed Clean Energy financing: A mechanism set up by a municipal government by which property owners finance RES and EE measures via an additional tax on their property. The property owners repay the 'assessment' over a period of 15 to 20 years through an increase in their property tax bills. When the property changes ownership, the remaining debt is transferred with the property to the new owner.



- On-bill financing: Utilities provide financing (i.e. a loan) for RET and EE measures. The building owners (or building users) repay the loans via a surcharge on their utility bills.

8.2 Financial Contributions by Private Individuals

Sometimes private individuals have to contribute their own money to a CONCERTO-project (e.g. if they owned a flat in a block that was to be refurbished). If this was the case, it is likely that they had to take on loans or apply for grants in order to finance their share of costs. Providing assistance with this will have been a crucial factor in winning their support for the project. On the other hand failure of winning over private individuals in principle or failure of them to secure finance may result in failure of the project over all. It is therefore important to capture and disseminate information regarding the successful involvement of private individuals. Aspects to cover are

- Did private individuals have to contribute their own money to the CONCERTO-project?
- What help was there for private people to meet the costs (e.g. assistance with loan applications, specific loan offers, grants...(for tax incentives in this context see separate section below)
- Property Assessed Clean Energy (PACE) financing, or On-bill financing (see also Section 8.1)
- What other financial assistance is there for people wishing to have an energy-efficient home in their country (outside CONCERTO)? (e.g. national grant schemes, cheap loans, attractive feed-in tariffs for small scale renewables...)

8.3 Financial Incentives – Tax Reliefs

Examples exist for tax relief at various levels for buildings with particularly good energy performance. These could be set at local, regional or national level. There may also be other financial incentives for energy efficient buildings that have not been covered yet above (under help for private individuals). There could be lower rates for taxes to be paid locally, e.g. business tax or building-related taxes. Often taxes have to be paid to the state or to a municipality when buying a property and there could be a lower tax rate for



certain exemplary buildings. For example in the UK stamp duty (£1,500 on a £150 000 house up to a maximum of £15 000 on houses valued above £500 000) will be refunded on any new home that is built to 'zero-carbon home' standard and purchased before 1st October 2012 ². There could be other tax exemptions that private people or businesses can get, if investing in energy efficiency or renewables or doing refurbishments e.g. income tax reductions.

² http://www.secbe.org.uk/drivers_standards/Policy_Legislation/zero_carbon_new_build, accessed April 2012



9. Barriers

CONCERTO projects set out to be visionary project, ahead of common building practice, that often tried out novel technical solutions. Naturally, whenever a new, non-standard approach is trialed, barriers of various kinds will be encountered. Barriers are always politically relevant. Barriers can occur due to technological, legal, administrative, economic or social issues. Information on these has to be gathered together with the solutions found to transcend them. This can help a smoother run for similar future projects, by either avoiding the issue or having solutions at the ready. The following list provides examples for the types of barriers that can occur:

Objections:

- objection of grid operators
- opposition of gas supply companies
- long lead times (e.g. for delivery of wind turbines, grid connection...)

Legal barriers:

- lack of relevant by-laws/ordinances at the local level
- long and difficult authorization procedures
- listed building status/ conservation area status
- Renewable energy technologies insufficiently taken into account in spatial planning
- planning rules against biomass incineration plants due to emissions and transport movement

Administrative barriers

- high number of authorities involved
- lack of coordination between different authorities
- master plans are not based on studies that analyze the opportunities of using local energy sources and installations

Technical barriers

- lack of experience in developing a specific technology
- lack of training in the sector especially for installers
- lack of foresight in town planning

Economic barriers



- High construction costs
- reduced profitability
- invisibility of full costs of electricity from non- renewable energy sources
- lack of tax incentives
- lack of subsidies

Social barriers:

- lack of awareness among target groups (constructors, architects, home owners, real estate companies)
- lack of awareness among the general public
- low acceptance of new projects
- resistance towards behaviour changes

As well as listing such barriers and providing specific details, it is of particular interest how these were being dealt with.

- Have they been overcome? How?
- Has a work-around been found? How?

10. General Aspects with Political Relevance

10.1 Key Benefits / Who Benefitted?

In order to communicate positive outcomes of CONCERTO projects it is important to have a clear idea on who gained benefits from the measures implemented. Relevant questions are therefore:

- how many citizens benefit from CONCERTO-measures?
- what were the key benefits of CONCERTO? (e.g. improved image of the area...). These could be aspects that go beyond the obvious and expected benefits of saving energy and CO2 or alleviating fuel poverty. They could include:
 - improving the general quality of life of inhabitants
 - improvement of the image of an area
 - improving connectivity/ access to public transport
- has the cost/ benefit to society been identified?



10.2 Success Factors for the CONCERTO Project

For the endeavour to ensure replication of CONCERTO-like projects, it is of particular importance to understand what made a project a successful project. For example, it may be felt that success hinged on one particular person. In this case it would be important to understand the role of this person. This could be a formal role as per her or his job description or her or his role within the constellation of other stakeholders – e.g. her or his ability to mediate between opposing interests or her or his enthusiasm for the job.

On the other hand success factors may have been tied to particular activities or the way the project was structured.

Success factors may be linked to strategies for overcoming barriers, as explored in section 0. Further examples could include 'proactive involvement of a community group' or 'ability of mayor to bring businesses on board'.

10.3 Replication

As emphasized at various points in this guide, the ultimate aim is to stimulate further CONCERTO-like projects, by having provided an example that low-carbon neighbourhoods can work and allowing various stakeholders to learn relevant skills. Certain standards, technologies or other aspects that were tested in CONCERTO may have been required by the planning authority for another neighbourhood scale project.

Sometimes CONCERTO-Projects have indeed influenced other nearby projects already. The names and key characteristics should be captured, e.g.:

- Number of dwellings/ units
- Technologies used
- Timescale of the project



11. References:

- Loga T, Knissel J, Diefenbach N, Energy performance requirements for new buildings in 11 countries from Central Europe – Exemplary Comparison of three buildings, IWU, 2009
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- Pedro, J.B., Technical Building Regulations in EU Countries: A Comparison of their Organization and Formulation, Proceedings: W113 - Special Track 18th CIB World Building Congress, May 2010, Salford, UK



12. Annex – Data Collection Sheet for Policy Monitoring

N.B. This form is supposed to be self-explanatory, therefore some of the explanatory texts in this guide are repeated in it or contained in abbreviated form.

