ESPON

TPM
Territorial Performance Monitoring
Annexes

Regional Report
Vlaanderen

Targeted Analysis 2013/02/13

Draft final Report | Version 27 February 2012

EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

This report presents the interim results of a Targeted Analysis conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

Information on the ESPON Programme and projects can be found on www.espon.eu

The web site provides the possibility to download and examine the most recent documents produced by finalised and ongoing ESPON projects.

This basic report exists only in an electronic version.

List of authors

Els Lievois
Loris Servillo
Pieter Van den Broeck

Interview partners

Climate change:
Mevr Cornelis Mieke – coordinator Klimaatbeleidsplan (LNE)
Dhr. Bogaert Johan – coördinator Vlaams Adaptatieplan (LNE)

Energy
Mevr. Dufait Nadine – Vlaams Energie Agentschap
Dhr Rongé Kris – LNE (absent)

Globalization
Dhr Vermoesen Koen (Agentschap Ondernemen)
Dhr. Mertens Geert (RWO, afdeling Ruimtelijke Planning)

Demography
Mevr. Schelfhaut Hilde (Studiedienst Vlaamse Regering)
Mevr. Loris Isabelle (RWO, Afdeling Ruimtelijke Planning)

Table of Content

1. Description of the stakeholder and its position in national structure

1.1. Historical evolution

(This paragraph is based on excerpts from Van den Broeck P., Kuhk A., Lievois E., Schreurs J., Moulaert F. (under revision), "Spatial Planning In Flanders. Serving a by-passed capitalism?", chapter in ARL book on the comparison of European Planning systems (forthcoming).

Preceded by a long pre-war history of making draft proposals, the Belgian parliament voted a first law on town planning in 1962 ('Wet van 29 maart 1962 houdende de organisatie van de ruimtelijke ordening en van de stedebouw'). This law has dominated land use regulations in Belgium and in Flanders for more than thirty years. Firstly, it formalized the system of planning permits that had existed since the beginning of the nineteenth century. From then on, every intervention in the built environment needed a planning permit delivered on the basis of building plans and to be judged by new administrations on different levels of government. Also different levels of appeal and a system of control of the implementation of given permits were introduced. Secondly, the law enabled property owners and developers to apply for allotment permits on the basis of allotment plans. And thirdly, the law introduced a system of hierarchical plans to be developed by the national government (national plan, regional plans, subregional plans) and the municipalities (local plan, sublocal plan).

After having prepared drafts of 48 subregional plans in the second half of the 1960s, and to stop the rapid increase in the number of allotment permits that were granted to property owners, the Belgian government voted a decree to formalize and standardize the subregional plans in 1972 (K.B. van 28 December 1972). Between 1974 and 1983 the draft plans were all transformed into legally binding land use plans for the whole Belgian territory on a scale (1/25.000) that permitted positioning individual plots and their designated land use on the subregional land use plan. After 1972 (and already before that), the 1962 town planning law was amended different times, especially in the 1980s 2, giving more opportunities for land owners to build on plots outside areas designated as building land. In the mean time, some municipalities successfully created their own local and sublocal land use plans, thus giving more detailed guidelines for local land uses (approximately 1/1.000) (European Commission 2000). At the same time, a strong orientation away from land use and zoning planning towards more structural planning had been going on, which was present in scientific debate (see also Albrechts 1982, De Jong and De Vries 2002, Van den Broeck 1987, Vermeersch 1975), but became widespread in the 1980s when different sectors realized that the appeals made by the different users of land were no longer compatible, and that the country had ended up with a patchy kind of

spatial planning and land use allocation, which could not be sustainable in the long run and which had in practice become an ad hoc approach where first asked first claimed, got served first. Although the land use planning system was rather centralized, the land was reallocated and the land use plans were changed in function of demands by major stakeholders.

After thirty years of experimenting with local structure planning and accelerated by the since 1970 ongoing federalisation of Belgium (see below), in 1996 the Flemish parliament voted the so-called spatial planning decree ('Decreet houdende de ruimtelijke planning van 24 juli 1996') which laid out the legal basis for structure planning in Flanders. With the decree a three tier subsidiary system of spatial plans was created. First, the Flemish government, all five provinces and all 308 Flemish municipalities were obliged to make structure plans giving a vision, strategies and actions for the spatial future of their territory. Second, these structure plans were supposed to be complemented with so-called spatial implementation plans (R.U.P.'s), which would gradually replace the existing hierarchical land use plans based on the 1962 town planning law. These R.U.P.'s still can be seen as land use plans, but leave more flexibility for governments in designating and regulating land uses. As a first practice of the 1996 planning decree, in 1997, the first Spatial Structure Plan for Flanders became operational (see also Albrechts 1999, Albrechts 2001a, Albrechts 2001b, Benelux Economical Union et al. 2007).

The Flanders Spatial Structure provides the desired spatial structure Flanders 2007. The spatial development of Flanders is not only determined in Flanders, but in three administrative levels (regional, provincial and municipal) and by means of two types of plans at every level (spatial structure plans and spatial implementation plans). It is intended that the lower levels focus on the framework and limitations of the higher level and the framework and verify/elaborate on the framework and regulations. The Flemish regional level will not elaborate on all structures in the RSV and certainly will not assign land use regulations on parcel level. It will, however, look at the spatial structures and elements with are of regional and supraregional importance.

Structure Planning is thus performed based on the subsidiarity principle, which means that every competent authority for planning is concerned with those matters that are appropriate to the conscious level to be arranged. Decisions must be taken at the most appropriate level. A decision on a higher level is justified as the importance and / or its coverage clearly exceeds the lower level. A higher level occurs only insofar as the objectives of the proposed action cannot be achieved by the lower level in a sufficient way. The principle of subsidiarity also implies, however, that provinces and municipalities watch over provincial and municipal interests insofar they are affected by the higher planning level.

The spatial vision developed in their own structure plans, serves as a basis and is achieved by participating n the creation of the spatial structure of the upper levels.

1.2. Present situation

In a nutshell, after the regional plans in the seventies, the Spatial Structure Plan Flanders (RSV) in 1997 (as well as provincial and municipal spatial structure plan), was established as a framework for spatial planning. Simultaneously the existing regional plans still determine mainly the action on the ground. Along with societal changes and new spatial choices connect with it, policy frameworks must also evolve. In the coalition agreement, the Flemish Government's ambition is to set out a new policy plan for spatial planning, for the end of the legislature (Opmaak van BRV – Startnota, 2011, p.3).

Next to this, The VIA Plan (Vlaanderen in Actie, *Pact 2020*) sets out an encompassing vision for Flanders for 2020. The ambitious aim is to lead Flanders to the top five of European regions. Flanders is envisioned as an economically sustainable and socially warm society. This ambition is embodied in the 2020 Pact, signed in January 2009 by the Flemish government, social partners and associations. Strategies and actions are grouped into seven fundamental breakthroughs or fundamental turnovers.

Via also includes a response to the Europe 2020 strategy, which proposes actions and benchmarks to tackle the global challenges of globalization, demography, climate change and energy.

A key question will be how the ambitions and the spatial component, expressed in the various VIA breakthroughs, can be placed in a spatially coherent story and to what extent the existing spatial policy framework for this should be adjusted. *(Opmaak van BRV – Startnota, 2011, p.3).*

The project coordinator and the core team BRV started their activities mid may 2011. The core team consist of representatives of the other policy competences, in particularly Agriculture and Fishery, Economy/Science and Innovation, Mobility and Public Works, Services for General Governmental Policy, Culture/youth/Media (Tourism), Urban Policy, Housing Policy, Family/Wellbeing and Health.

The new spatial Policy Plan (BRV) is not the only "integrator" or theme-overarching plan with respect to the global challenges. Other examples, relevant to this topic, are the Flemish Climate Policy Plan and the Flemish Adaptation Plan (2012), The Energy Efficiency Plan and the Plan Renewable Energy, the Flemish Reform Plan, the Poverty Action Plan .... much of which is currently in phase of

formatting (for details see the discussion in relation to the different themes). In addition, other policy memo's of the different competences within the Flemish Government, constructed with the installation of government, serve here as a base to analyse the strategic choices, but also more elaborate policy plans (e.g. environment, mobility, ...) are in phase of consultation and construction.

The analysis of spatial challenges linked to global challenges and the effectiveness of policies to address them in an integrative way, comes at a peculiar time. Currently, the spatial policy in Flanders is in full transition phase. In this context, the qualitative monitoring of this contribution must be seen as a baseline measurement.

2. Awareness of global challenges and forecasting/monitoring

1.1. Climate Change

(For references to the indicator list, cf. indicator table in paragraph 8.1)

Regional challenges and spatial impact

Climate change manifests itself, amongst others, in a global warming process, which is clearly noticeable in Flanders during the last decades *(env05, env06, env07, env08)*. The Intergovernmental Panel on Climate Change (IPCC) is an agency of the United Nations, gathering scientific findings concerning climate change throughout the world. According to the IPCC it is set out with a high probability (> 90% certainty) that human behaviour contributes to climate change. This contribution is due to the increased emissions of greenhouse gases ((carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), ozone (O3) and fluorine containing gas) into the atmosphere (*env04, env25, env26*). Other factors also play a role in the observed climate changes: for example, the variation in solar radiation, the changing presence of dust particles in the atmosphere (env03) caused by volcanic eruptions or natural phenomena such as variations in atmospheric circulation patterns.

Greenhouse gas emissions in Flanders contribute to this climate change, but global warming is a global event par excellence. To explore possible climate change scenario's for Flanders, global gas emissions scenarios are used – which come from the 4th Assessment Report of IPCC (2007). This leads to 3 climate scenarios for Flanders, which outline the boundaries of the climate in Flanders by the end of this century (2100). They include both the possible differences in greenhouse gas emissions as the uncertainties, related to each climate model used, and lead to a wet, moderate and dry climate scenario (Milieurapport Vlaanderen, p. 284-286).

The precise change in climate is difficult to predict, especially on a smaller geographical scale like Belgium. Belgian research in this field will continue. Nevertheless, national and international research reveals several future challenges for Belgium. The most obvious are sea level rise and inundations (env28) – possibly caused by extreme weather events such as storms *(env27)* which will affect the coastal and lower areas *(Env29, Urb15).* A possibility to counter this is to ensure a sufficient buffer capacity of valleys to retain water (*env30*). Droughts and heat waves will affect the forests in the southern part of the country (National Adaptation Strategy, p. 6), and are also affecting the heath lands in the northern part of the country. It is also difficult to predict how climate change will affect the evolution of the ground water level *(env31).* A last related

aspect is the evolution in biodiversity *(env33, env34, env35, env36),* and protected nature areas *(env02).*

A related aspect is the impact of climate change on health issues such as casualties during heat waves *(Hea01)* and the effect of respiratory diseases *(Hea02).* Other consequences of climate change are the emergence of heat islands *(Hea03)* and smog formation *(Hea04).*

Local challenges for Flanders are being prepared for a changing climate and it spatial conditions on one hand (**adaptation**), e.g. by climate adapted urban development *(Urb16, Urb17),* on the other hand in offering a response to the European policy objectives considering the suppression of greenhouse gas emissions, in order to avoid any surplus change of climatic conditions throughout the world (**mitigation**).. The challenge is for this to work out a long term strategy which should be coordinated between different competences within the Flemish policy field. This means Flanders I certainly aware of a European policy (Europe 20-20-20 and Green and White papers on Adaptation), which is also translated in "Vlaanderen in Actie" (VIA Pact 2020).

Specificities of Flanders

In the Green Paper "**Adapting** to climate change in Europe - options for EU action" Flanders is characterized as a coastal area with the most acute problem of rising sea levels. Wallonia, on the other hand, is characterized as an area with the possible risks of drought.

As regards **mitigation** Flanders feels the legacy of a lack of spatial planning in the past. This means that many additional emissions are generated due to the dispersed spatial structure of settlements and built up area which hampers water permeability *(env01)* and mobility. Since mobility is not covered by emission trading policies, the Flemish government is responsible for designing policies to a problem on which it has little control. This problem is also manifesting itself in energy efficiency policy (cf. paragraph 2).

Use of forecasts / monitoring

Mitigation vs. adaptation policies are using different forecast/scenarios and scenario methodologies. This can be explained by the different time perspective (mitigation: meeting the 20-20-20 targets / adaptation but also setting out strategies after 2020/ adaptation: exploring different strategies to adapt to sea level rise towards 2100).

The "Milieuverkenning 2030" includes forecasts concerning:

- Energy consumption and greenhouse gases;

- Climate change and soil hydrology.

Adaptation policy follows these forecasts (until 2100), and especially the predictions considering sea rise level (cf. Milieuverkenning, p. 298).

The department of LNE, which is responsible for mitigation policy, develops mitigation forecasts which require conformity with European standards calculating greenhouse emissions.. They are calculated by VITO (every two years) and by a different methodology than the "Milieuverkenning 2030" (data collection on different time intervals and different parameters). The forecasts are using the perspective of 2050, but wit incremental steps 2013-2020. This is necessary since the European Commission sets out yearly standards until 2020.

"Milieuverkenning 2030 (MIRA)" is effectuated in an intensive sharing process with stakeholders. It is based on international models such as IPCC.

The timeframe for European targets concerning greenhouse gas emissions (mitigation) is very stringent, with a benchmark for each year. In the cyclical "Klimaatbeleidsplannen" (2000-2005; 2006-2012, 2013-2020) strategic aims are presented, but in the yearly progress reports operational objectives are formulated. New measures are possible each year.

The forecast activity is embedded in a cyclic monitoring activity, as far as mitigation is concerned (VITO). As far as mobility and agriculture is concerned, greenhouse gas emissions are monitored via the "broeikasgasinventaris", and a biennial report is submitted to forecast until 2020, with two scenarios (one with measures scenario and one with additional measures scenario).

1.2. Energy

Regional challenges and spatial impact

Similar to the issue of climate change, the challenge of energy is a global one, and in particular manifests itself in the effectuation of the European policy goals concerning energy-efficiency *(Ene30)* and renewable energy *(Ene31).* Reaching European goals is also explicitly mentioned in VIA 2020, which means that all Flemish policy documents have to respond to the challenge and include it in their vision.

The energy intensity of the Flemish economy (gross domestic energy consumption per unit of gross domestic product at constant 2000 prices) has been decreasing since 1998 *(Ene12).* Since 1998, gross domestic product grew much faster than the gross domestic energy consumption. Since then there has been a decoupling of energy use and economic growth. Between 2005 and 2007, the energy intensity shows a remarkable decline. In 2008 and 2009 the energy

intensity has been decreasing further. In the crisis year 2009 the decrease of energy was greater than those of gross domestic product (Beleidsnota Energie, 2010-2011, p.9).

Most obvious spatial impacts are:

- A spatial demand for non-renewable energy *(Ene23);*
- A spatial demand for renewable energy (wind, solar, cogeneration,….) The search for locations for those energy facilities and the construction of RUP's to make them possible; *(Ene13, Ene14, Ene15, Ene16)*
- Rethinking the most optimal settlement system for the reduction of movements – spatial layout of the infrastructure network *(Ene17);*
- The construction of industry parks, effectuation of public works, neighbourhoods, dwellings, always with energy efficiency as starting point *(Ene18, Ene19);*
- Construction of supporting infrastructure for green energy (eg. for hybrid cars*). (Ene20)*

Specificities of Flanders

Flanders does not have gas or oil production, in contrast to e.g. Netherlands and Norway. The dependence on imported fossil fuels such as coal, petroleum, nuclear fuel is not very different of much of the other European countries *(Ene29),* although the potential for renewable energy is very small. As energy is concerned, Belgium is one of the most important importing countries of Europe *(Ene21).*

Flanders is different from other European regions in the potential for renewable energy. In the North Sea there are possibilities for wind energy *(Ene02, Ene03),* but generally speaking it's not very hot (solar energy), there are no possibilities for hydro power,….Because of the dense housing in Flanders itself and the lack of space there is a shortage of opportunities for wind energy or biomass. This means that strategies for decentralized forms of energy generation (on site-specific locations such as residential districts, on industrial estates,…) are not overlooked: re-use of dirty water (*Ene24*), district heating *(Ene25),* cogeneration, recycling (*Ene32)*,….the number of firms specialized in renewable energy can be an overall indication of renewable energy initiatives *(Ene33).*

The EU-Benchmark shows that Flanders is very dependent on energy (based on the percentage of employment in energy intensive industries, *Emp04*).

Flanders is a transit region with a very dense road network, centrally located in Europe and relative to some very important logistical nodes (e.g. port of Antwerp). This means a big share of energy use caused by transit mobility, with a high share of freight traffic *(Ene04)* on which it is very difficult to perform policy or articulate concrete measures (modal split can be measured through

Ene26, Ene27 and *Ene 28* although it is not possible to determine what is domestic and what is transit mobility).

Therefore, Flanders basically is allowed to make a correction on the aims, but did not do this since no uniform method is available to quantify this correction - in contrast with other indicators and targets from Europe where very specific top-down methods are developed.

In Flanders the affordability of energy is an additional challenge *(Ene22).* Europe suggested to effectuate this by a restructuration of the energy market and to allow for more competition on the gas and electricity market (Vlaamse Lissabonrapportering,2009, p. 9-10). However, this is a federal competence.

Use of forecasts / monitoring

"Energy projections for Belgium are a tool for decision making. They are coherent and detailed projections of the Belgian energy system (sic website of the Federal Planning Bureau). They attempt a quantitative assessment of the likely range of the energy future of Belgium. Those ranges vary depending on the assumptions regarding key variables such as economic growth, energy prices, technological developments and policy options. The energy forecasts of the Federaal Planbureau are concerned with long term (20 to 30 years) and medium term (5 to 10 years). The long-term projections concern both energy supply and energy demand, while the medium-term only focuses on energy demand.

The Federaal Planbureau bases its projections on the PRIMES energy model, which is not available at the FPB since its implementation is held by the Technical University of Athens (NTUA), the main designer of the model. The FPB does provide for the collection of a portion of the data, analyzing results and preparing the reports, and designing alternative scenarios (either itself or proposed by the government or the federal administration, in collaboration with the FPB)."
(website Federaal Planbureau, www.plan.be).

Besides, forecasts are also developed for the **energy efficiency plan** (until 2020). The same projections are used for agriculture and mobility and are developed by VITO since 2006 (Bau and Bau + scenario). For projections concerning dwellings and buildings, VEA does not work with the same projections as the LNE does for the Klimaatsplan Vlaanderen since these are top down and VEA uses bottom up calculations, according to the methods developed by the European Commission, and has developed its own forecast model by VITO. Here various parameters are used, such as projections for construction of new buildings, demolition, renovation,… The model is also adapted to decisions of the cabinet concerning the standards for parameters, new policy options, granting, renovations,….and then further elaborated.

There are no agreements on the distribution of diminution of energy consumption among Flanders, Wallonia and Brussels yet, so the energy efficiency plan is not using the separate forecasts are not used in the energy efficiency plan yet. Instead, national forecasts (Federaal Planbureau) are used, concerning energy, economic growth, although those projections are for the whole of Belgium and one can assume big differences between Flanders and Wallonia concerning some economic sectors (different economic structure).

For projections concerning potentials for **renewable energy**, Europe only requires them until 2016, but Flanders develops them already until 2020. Here, the same projections are used for agriculture and mobility. All forecasts are developed by VITO since 2006. That year was the first forecast reports available, the BAU and BAU + scenario. For renewable energy and cogeneration, the VEA is also subcontracting for a number of years already to VITO, to make assumptions, mainly potential calculations until 2020.

There is a constant actualization of those forecasts, and it is done by intensive stakeholder consultation processes. This is also the case for the forecasts in the energy efficiency plan.

The time frame for meeting European targets for energy efficiency, renewable energy and greenhouse gas reduction is ultimately short. Forecasts are made on a very frequent time pace, and a flexible readjustment of measures will be necessary if the targets are not reached. Constant monitoring is therefore needed. Considering energy efficiency: there is momentarily no need for additional measures since forecasts indicate being on schedule.

1.3. Globalization

Regional challenges and spatial impact

This analysis uses the following definition of the challenge of globalisation:

- a change in environmental factors, notably the greater dependence of a region and authorities on international and professionalised decision-makers in the fields of economic development and the utilisation of space;
- a need to respond to this situation through policy - including European policy – among other things by pursuing some strategic spearheads of economic development and by strengthening competitiveness.

Altered economic structure

The economic structure has evolved from a highly capital-intensive economy - based on cost-competition and energy-depleting, large-scale mass production with international competition centred on costs - to an economy increasingly concentrating on added value (e.g. through design and product differentiation). An economy of this kind tends to be less sensitive to wage costs and energy costs. (K. Vermoesen). The economic structure of Flanders can be compared with other European regions making use of indicators related to employment (Emp04, Emp05, Emp06) and salaries (Eco04, Eco05, Eco06).

The emergence can be seen of new types of companies not confined to traditional activities established in traditional business parks. There is now also an important economic pillar made up of tourism, social economy, business services and a 'services economy' that is being created for lowly-educated people and goes hand-in-hand with an affluent economy or population (e.g. ironing and other forms of domestic help). All of these sectors benefit from an urban environment. (Mertens).

At the time of the Flanders Spatial Structure Plan, the spatio-economic strategy contained an ambition (including an international ambition) for economic gateways, but lacked an explicit strategy for attracting foreign investment. Wage costs in Belgium had already become so high that there was a reluctance to respond (Glo1). This was reflected by a temporary decline in foreign investment (although this might have been due to normal economic fluctuations). Together these circumstances must be interpreted according to the political mood at that time for making choices in economic development.
This is far less prevalent nowadays because the companies themselves make these decisions. It is possible to facilitate a movement in a certain direction, but it requires the earlier acquisition of knowledge of how companies view Flanders. This observation suggests that the image of Flanders as place of business could depend rather on perceptual issues than on objectified elements of competitiveness (such as specification in specific segments of production, cost of production and productivity (Glo01, Glo03), qualification of labour force (Edu01, Edu02), accessibility of markets (Con01, Tec01), innovation (Tec02, Tec03),…

Globalisation has also spawned the 24-hour economy: Flemish enterprises will increasingly cooperate with American, Chinese, Indian and other foreign companies in a tele-working situation and will align with office hours in other parts of the world. This form of flexibilisation of working time is already noticeable (people who sleep/shop during the day and work at night). Although the policy consequences and the spatial consequences are not yet entirely clear, we have already seen the emergence of teleconferencing centres that have responded to this development by opening at night.

The private sector expropriates policy tasks

The consequences of globalisation are even more far-reaching, however. Global economic players are increasingly taking their decisions at a level beyond or almost beyond the reach of national or regional authorities. Multinational companies and international organisations are gaining influence compared with national authorities (Environmental Policy Plan, p. 13). The way in which Flanders is inserted in multinational form networks influences this dependency on decisions taken elsewhere (Glo04, Glo05).

The globalisation phenomenon has resulted in a changing relationship between companies and authorities. There is an international shift towards a guiding real estate developer. In the past, a company looked for a location and purchased a plot of land with help from the authorities. Now, the real estate developer acts as an agent who arranges everything for the company, including the procedures (obtaining licences and similar), and also becomes the owner of the developed buildings. Corporate real estate is an emerging, new market with consequences difficult to assess at present. The same phenomenon is noticeable in logistical warehousing, where the real estate agent takes on development responsibility and brings his own clients (companies) with him. All kinds of investment funds generally finance these projects.

This means that the players - stakeholders the Flemish authorities must deal with - are changing. Users of space are internationalising and professionalising. They are becoming more like organisers than users of space. Compared with the past when the authorities decided places for development, the real estate market is now getting a bigger say in the choice of location. They mobilise strong legal support and this occasionally confronts the authorities with a fait accompli (cf. brownfield development covenants).

Spatio-economic development is no longer a question of a single company approaching the authorities, inquiring where space is available and asking what steps must be taken to start up a company within a certain time. Instead, there is a real estate company that is looking for a commercially profitable project and finds out what legal preconditions must be met to achieve this goal.

This trend is causing new trends to drift in from other countries, such as globalised retail concepts, large wellness complexes and fun shopping combined with fitness, wellness, sport and recreation. There is a rising demand to find locations for all of this in Flanders, but the proposals sometimes run counter to the local spatial context and mentality. The real estate developer must sometimes scale down his ambitions (e.g. UPlace in Machelen).

The increasing globalisation of the economy exerts local effects on spatial developments in the economic structure, entrepreneurship (Glo13, Glo14, Glo15), growing mobility, less stability in the labour market, social polarization (Glo17), pressure on the environment and so on. Technological innovations are driving ever-faster changes in production methods and products and services. The increasing globalisation makes companies less tied to fixed places. They manufacture where they consider it most favourable from a business point of view and they do business worldwide.

The economy is fanning out, with tangible consequences for the living environment. Among other things this development is significantly increasing the number of movements of people and, above all, of goods. The net result is radical changes in the space where production occurs, both in the choice of locations and in the use made of space. New production processes and management techniques, the typically global organisation of major companies and takeover effects have made it more difficult to plan and arrange this sector spatially (see above).

Spaces of flow and rediscovery of local merits

At the time of the Flanders Spatial Structure Plan, a relative benefit was identified in the globalisation context for cities located in a central metropolitan area, like the Flemish cities.

As nodes the airports of global significance and high-speed rail links and HST stations are becoming a decisive factor in the spatial structure of Northwest Europe. The location of cities in relation to these nodes and the capacity to stand out in these transnational networks is pivotal to their urban development. At European and Flemish levels there is a growing gap between these cities - which because of their location in the communication network have an extensive and efficient relationship with the actual decision-making centres – and the peripheral cities that due to their location, natural disadvantages or industrial past cannot raise capital or attract investments (Flanders Spatial Structure Plan, pp 37-38). This has resulted in functional specialisation and in competition between cities for specific types of production, high-quality services and so on. In step with growing specialisation, the city develops a unique label or image. In turn this attracts other specialised economic activities and highly educated workers who stimulate an increase in the number of specialised jobs of a specific nature.

Spaces of flow however are not only indicated by an increase in international traffic flows (Con02, Glo6, Glo7,Glo8, Glo9), but also an increasing mobility of population, residential (Dem05, Mig02) as well as touristic (Tou01, Tou02, Glo28).

Sociocultural effects of globalization

It is argued that globalization has the effect of a social polarization and a socio-economic rupture between those population groups that are in tune with the global economy and those that are "lagging" behind (Glo17). As an answer to the competitiveness adagium, the principle of social cohesion is put forward.

On the other hand, Florida proposes a set of measures or phenomena to indicate the "global citizenship" and tolerance towards an international lifestyle (Glo25, Glo26, Glo27).

Spatial economic strategies

The Flanders Spatial Structure Plan, however, has broken an established trend by breaking away from the idea that every region had to lean towards a Flemish average for a comprehensive set of variables and should now look for its own strengths: this might be industry (including heavy industry), tourism, green spaces, etc. This reflects the principle of 'rediscovery of local merits', which is coupled to globalisation (Vermoesen). Specialization within regions should be possible (Glo29).

The debate on how Flanders should position itself within this globalising network and how this will affect economic development poses a challenge. The challenge has manifested itself on a Flemish scale, namely the question of the extent to which the Flemish poly-centric urban structure is fits into this network. This prompts the question (although more at governance level) of whether it might be better for Flanders to promote itself internationally as a single entity instead of each city doing this on its own (Mertens).

A prevailing idea within Spatial Planning is that there should be a rescaling that includes letting go of Flanders somewhat. The intention is to break with the tradition of viewing cities independently of each other and to regard Flanders as a single entity, even in relation to neighbouring regions (as a Delta?). This idea received far less exposure in the Flanders Spatial Structure Plan.

A second meta-level question concerns the types of macro-areas that should be pursued for economic developments. In the cities it is easier to grow the potentials of knowledge and an innovative economy because they are an attractive setting for establishing operations on account of the proximity of facilities, cultural amenities and so on. In other words, they are attractive for the right group of employers (legacy of R. Florida).

It is debatable whether the labour potential is findable mainly in cities, especially in a context where there is a pursuit of an innovative and high-tech economy, particularly if there is an emerging innovative economy or technology, or whether the cities that stay outside the gates will be the most attractive as a place for establishing business activities. How can Flanders put itself on the global map? Can you use your rural areas for this purpose? Or should it be confined to cities with high-profile names that have already established themselves on the map but not yet prominently enough? What will yield most? (Mertens). What kind of agglomeration economies exist and should be pursued? (Glo2)

On the other hand, it is necessary to consider how the present economic structure (i.e. cities + ports, airports, multimodal platforms and similar) is usable to respond to the challenge of globalisation, but also respond to this changed globalised context. Will they continue to function as gateways or, just like the cities, will they need to look for mutual coalitions or mutual complementarity such as exists between the ports? (Vermoesen, Mertens).

Changes in Spatial planning

If it is decided to pursue new sectors, also driven by European policy, what needs to happen in spatial planning in order to accomplish this? The discussion currently centres on the premise that it is no longer about keeping free or reserving sufficient pieces of land for the development of business sites or large-scale developments, but that it is more important to put forward a number of other business establishment factors/preconditions, such as good accessibility, an attractive urban climate and an attractive labour market (Mertens).

In the Flemish context some catch-up operations will be necessary in terms of providing space for problematic parties that require space for which sites are scarce. However, it is not possible to make the general conclusion that there are major shortages of space for economic developments. All things considered, this is principally a spatial problem and far less a problem directly related to the globalisation issue.

Specific spatial challenges coupled to particular sectors

Sectors such as healthcare, the economy for lowly educated workers and recreation are becoming increasingly significant sectors with their own spatial logic. These activities are spatially embedded and are found chiefly in cities but now also in villages (Geert). It is a challenge to give consideration to this matter and to respond through policy to this embedded form of economic activity, although recently the quaternary sector has made more requests to set up

operations on industrial sites. This concerns parties like hospitals and health insurers that opt for accessible types of business sites but can also operates in the city.

Another spatial phenomenon is the economy distributed across the peri-urban area. An insight is needed into the types of companies concerned and how this matter can be addressed by means of policy.

Awareness of a general policy perspective

In 2010, the European Commission presented concrete benchmarks related to the different themes;

- Employment for 75% of the population between 20-64 years ; (Glo31)
- 3% of the EU-BBP to be invested in R&D (tec02);
- Reaching the "20/20/20"-climate and energy targets (cf. climate and energy);
- The school drop-out rates should be lower than 10% and at least 40% of the younger generation (30-34 year olds) should have a degree or diploma (Edu2 and Glo32);
- the number of people who are poor or socially excluded, should be diminished by 20 million. (www.vlaandereninactie.be)

Following the European directive, Belgium needs to prepare a national reform program for a period of three years based upon 24 integrated guidelines ("richtsnoeren"), complemented by a yearly progress report. Europe made some concrete recommendations for Belgium based upon the former report. Flanders also has its own reform program and progress reports.
In the Vlaamse Lissabonrapportering an overview is given of the most important structural indicators following the European directives. (Lissabonrapport, p. 10-12)

Via (Pact 2020) is a formulation of the Flemish vision, in which "the need for a competitive and sustainable economy is put forward, which responds to the opportunities given by globalization" (the report also proposes a set of indicators).

A strategy to respond to the need for innovation and competitiveness, related to the climate change and energy challenge, is to strive for the development of a green economy, a circular economy which is not only a policy objective for Flanders, but also an inner potential to strengthen the competitive position of the region (Vermoesen).

The theme will be further elaborated in the policy section.

Sociocultural impacts of globalization on space: homogeneization

Next to aforementioned aspects that are more related to the impact of globalization on economy, the way in which globalization or phenomena related to it (e.g. scaling up), are affected landscapes and are having a homogenization effect. One can think of specifically rural phenomena such as up scaling of agriculture destroying traditional landscapes, or multinational retail chains which lead to a McDonaldization effect in inner city shopping areas (Glo17, Glo18, Glo19, Glo20, Glo21, Glo22, Glo23, Glo24).

Specificities of Flanders

Flanders is a little and very open economy, little in the sense that the BBP is only a small percentage of the European BBP. Open in the sense that import and export is 69.5% and 66,5 % respectively of the BBP. This openness is increasing (RSV, p. 123 - sic). (Glo28, Glo29).

Flanders strongly stresses the importance of logistics as an economic sector based upon its relative location within Europe. Vlaanderen in Actie puts focus of logistics forward a as strategic line within their Vision for 2020.

Generally speaking Flanders is also characterised by a large proportion of small and medium-sized enterprises (SMEs) (Glo30).

Specific for Flanders and Belgium as a whole, are also the steep labour costs (Glo01).

In the situational analysis of the Beleidsnota Economie, the following characteristics are put forward (Beleidsnota Economie 2009-2014, p. 5 – 8):

- High prosperity, but a crisis with drastic consequences for the labour market;
- High productivity, but investments and in-service training under peril ;
- An open economy, but aimed a traditional markets and countries of origin ;
- Many entrepreneurs, but a little amount of fast growers and a imminent ageing ;
- Not characterizable (yet) as a strong knowledge economy.

It is unclear at this moment whether Flanders is exceptionally different from the other European regions in this respect. The quantitative analysis of the region should be able to give an answer.

Use of forecasts / monitoring

A fair amount of economic forecasts are drawn out by the Centraal Planbureau and can be consulted on their website (www.plan.be). Collaboration also exists between federal and the regional governments. The projections are on short term, medium and long term (dependent on the type of phenomenon being forecast)

In order to prospect developments within the international economy, the Federaal Planbureau makes use of the "NIME Outlook for the World Economy: Medium-Term Prospects for the World Economy [24/08/2010]" model: The NIME medium term projection for the global economy provides a macroeconomic scenario for the main areas of the world economy. The scenario is based on data from the AMECO database of the European Commission (November 2009) included as an appendix to its Economic Forecasts, autumn 2009. Based on all available information up to December 24, 2009 the NIME medium-term projection gives a new scenario for the global economy. Medium-term prospects of the FPB for the Belgian economy are based on an international economic scenario which was derived from the medium-term perspectives of various international institutions such as the OECD and the European Commission. The methodological choices underlying the forecasts and projections for Belgium from the FPB are completely separate from the international economic scenarios and analyzes it develops for the world economy. It also uses the model Nemesis (New Econometric Model for Environmental and Sustainable Development and Implementation Strategies), a macrosectoral econometric model. (www.plan.be)

The forecasts of the Federaal Planbureau are updated according to changes in conditions, not spatial dynamics. (cf. www.plan.be)

Economic projections of the Federaal Planbureau were also used to make an estimate of spatial needs for economical developments by the Spatial Planning Agency, at least for those developments for which specific areal zones have to be delineated (IBM, How-To).

Momentarily, within the Spatial Planning Agency, the necessity to delineate large surface areas for economic development is under discussion. A specific attention point within the BRV is how strong the focus will be put on quantification and assign hectares to different space users. The question should be rather on new methodologies do deal with space, more based on multifunctionality, verweving, … However, one expects that quantification will remain a demand of the political agents.

The IBM-research was effectuated in collaboration between RWO and AO, together with a delegation of scientific experts.

The aforementioned aims will also be monitored by the Indicatorenboek VIA, but it is not clear whether those will be compared with forecasts.

1.4. Demography

Regional challenges and spatial impact

The population – volume, age structure, spatial distribution and possible evolutions (Dem03) – is very crucial to a pleiade of policy themes. Those themes can be related to youngsters (family allowance, provision of education, education personnel), the labour population (job creation, unemployment, fiscal issues, social security, commuting) and the elderly (health care, retirement pays). More generally the population size also affects consumption patterns, housing and need for energy.

The demographic challenge can be further subdivided in:

- Migration (external and internal);(Dem05, Mig02)
- Ageing (or more in general: age structure) (Dem06, Dem07)
- Household composition and number of households/single households and ethnic composition (Dem04, Dem05).

The aging population and the growth rate of the elderly in the population is partly the result of declining fertility and longer life span (Dem01, Dem02). This development has major financial implications for the budget. The modified structure of the population leads to a decrease in the population of working age who contribute to taxes (Soc05) and increases the number of elderly who receive pensions and rising health care (see Social protection and aging issues). This leads naturally to an active debate in Belgium and Flanders regarding raising the retirement age.

Flanders is unlike other regions that may be facing the challenge of population decline. From the most recent population projections (Studiedienst Vlaamse Regering), an increase of 6.6 million inhabitants by 2030, which is an increase of about 7% compared to 2008. It is expected that 9 / 10 of the municipalities the population will increase.

Flanders is at typical immigration region, and is gaining more population through immigration than by natural growth. The strong immigration raises the question whether European policy should deal with this, since some municipalities on the border face of the influx. (media reports, according to Hilde Schelfhaut).

European flows will increase in future, but there is still considerable uncertainty about the impact of some political evolutions in the North Africas, so external

migrations may be currently underestimated (as the projections assume a trend scenario). This means not only a quantitative but also a qualitative difference (North African families have a different family structure than Eastern European families).

Moreover, the growing trend of households persists; the amount of households is expected to increase up to more than 2.7 million in 2020, and in particular the number of single households will grow considerably (Beleidsnota Ruimtelijke Ordening, p. 4) (Dem08).

The ageing process has not yet reached its cruising speed today. In the decades to come, coming ages, Flanders will face a sharp increase in the proportion of elderly. More in particular, the proportion will increase significantly over-80s. Yet ageing also has positive associations. Most elderly people are living long in good health and still quite independent. Moreover, the diversity, both socio-economic and socio-cultural, in the elderly increases. This example has implications for the housing preferences and asks for the combination of housing and care. The trend is observed that elderly function more independently (with or without a partner) and are less likely to be included in a retirement or nursing home. (Beleidsnota Ruimtelijke Ordening, p. 4)

Spatial impacts of external and internal migration

It can be observed that external migration flows concentrate upon the "big cities" (Brussels, Antwerp, Ghent), with a certain mass suburbanizing subsequently to the outskirts, eg of Brussels, and also towards Wallonia. In this way, a certain population group is there substituted by a less affluent and with a bigger household composition (family reunification). The slightly smaller families are leaving the city to the outskirts. It can be necessary to anticipate on this in both provision of services as housing (although a more active policy could also be at the heart of the discussion, cf. further).

As such, the suburbanization process is still persisting (Dem09). Along with the ageing population this also raises the problem of the suburban belts where many baby boomers have built their homes, but now (want to) return to the city. Besides the effects of these differential migration patterns, addressing these suburban areas is a large spatial challenge. (Beleidsnota Ruimtelijke Ordening, p. 17)

Another important trend is the retirement migration to the coast, although now also a migration wave of the age group of 40-60 can be observed. The projections show an inflow until 2018, but after 2018 a decline of influx is expected (based on the population pyramid, e.g.). This is expected in cities such

as Bruges, Kortrijk and Ostend. This creates a major policy challenge related services: housing, health care, e.g. ... what to do with homes that had to be built to accommodate the growth in a period of contraction of the inflow? Should we abort? Will prices go down? What about vacancies?
This challenge poses itself also in Antwerp, where a predicted "greening" of the population until 2018 will result in the need for new schools. (see below).

Spatial impacts of diminution of Household size

The growth in the number of households is expected in almost all municipalities. The largest increase occurs in the villages situated on the coast, in the Kempen and especially in the border region with the Netherlands. A particularly strong increase is expected outside the cities and along the coast. This will result in a continuing demand for housing, but with an overall decrease in housing size (Dem10). It is estimated that by 2020 there will be a demand for about 80,000 additional housing units which are suitable for singles. By 2050 this can be estimated on 170,000 units. (Beleidsnota Ruimtelijke Ordening, p. 4). This reduction in average household size and demand for smaller units is of course also related to the aging process. Those projections are based upon a continuation of existing trends of diminution of household size. In Flanders, this leads to a phenomenon of apartments taking over the cores of cities and small towns (Dem11) and new urban architectures.

Spatial impacts of ageing, "greening"

The spatial impact of the ageing process manifests itself locally in the need for providing appropriate (smaller) units, which can already be observed in existing trends (more apartments in city and town cores, compaction, a trend of smaller lots, ...). Moreover, older people depend heavily on nearby facilities near their places of residence, green spaces and public transport. Alternative forms of housing such as group homes, sheltered housing and kangaroo homes can offer a solution for them to live independently for a longer time, as well as solutions for adaptable or "lifelong" housing. The ageing population has an important spatial impact by both the demand for more public (healthcare) facilities that demand extra space and by the demand for a wider and more varied range of housing and services for the elderly (Dem23, Dem24, Dem25). (Beleidsnota Ruimtelijke Ordening, p. 4)

It can be observed that the relationship between housing and care for the elderly functions at other scale levels than it did before; instead of a strong dialectic between staying at home and call for homecare, opposed to move to a home of rest, a whole spectrum of possibilities is developed nowadays (e.g. amount of health care provided at home, Dem31).

Other spatial challenges

Alongside the former trends, there is also an existing demand for detached, freestanding houses. The response on this trend is the construction of allotments with different price levels, with a tendency to reducement of the allotment size. Older people also are attracted to rural areas resulting in an increase in housing prices, which causes younger families to have problems finding affordable housing (Dem30).

Supportive services can be broadened as above, it is not just about care for the elderly, but also cultural and recreational facilities, transportation, other facilities such as childcare in the profit sector, providing a good quality environment.
Environmental quality: Dem12, Dem13, Dem14, Dem15, Dem16
Cultural and recreational facilities: Dem18, Dem19, Dem20, Dem21;
Commercial structure: Dem22;
Provisions for children: Dem22, Dem23, Dem24

Overall, the biggest challenge is how flexible responses can be found to the varying demand for services related to the anticipated population growth and demographics. This can be realized by constructions which can be used for different purposes: both child care and elderly care, education,..(. Peter Swinnen, Flemish architect). Currently the RWO has commissioned a study to see which instruments should be used and how policy can deal with these types of multiple use.

Evidently, all is related to how the way in which the Flemish settlement system evolves or is planned, and what spatial models will be used to structure it. This discussion will be reflected in the Beleidsplan Ruimte. This distinction is important because the "urban areas - rural" division is now used as a main rule for the placement of new facilities and housing. Obviously the settlement pattern also needs to be well accessible (Dem26, Dem27, Dem28, Dem29).

In any case the population projections (until 2018) require for urgent action. A very important issue in this respect is the role of cities. A close monitoring and adaptation to the population projections which are based on current trends, do not take account of visioning or strategic policy of the cities to attract families with children (see section 1.4 and effectiveness of policy bundles).

Awareness of a general policy perspective

No explicit European policy exists regarding the demographic problem an external migration. There are some derivative strategies, and the Flemish Reform

Programme which gives an answer to Europe 2020 proposes guidelines that are in relationship with demographic challenges, such as e.g. providing employment, and policies for improving the quality of life (which is mainly focused on poverty reduction and ensuring equal opportunities). Environmental quality receives less attention.

In this, policies concerning demography are different from e.g. energy and climate policy, in which Europe sets out very specific directives and benchmarks, which European countries (and regions) have to follow. This is most likely because demographics is largely a local issue and also in local policy is collected. This does not mean, off course, that demographic developments aren't closely monitored in the Flemish region and consequences on policy discussed.

Specificities of Flanders

In the ESPON DEMIFER project a spatial differentiation has been made of European regions concerning demographic aspects. Flanders belongs to the European standards group, with an age structure close to the European average and a growing population (as opposed to other regions which have a younger age structure, and/or shrinking). During the interviews also a "greening" process was mentioned, at least in comparison with Eastern Europe. This will have to be verified in the benchmarking process.

In Flanders, the vast proportion of land is private ownership, not government property. This means an additional difficulty to governmentally steer the housing developments.

In a research, commissioned by RWO ("Sturingsmodellen rond Wonen"; (how to steer housing developments – not available yet to this date), a number of foreign cases were compared with Flanders. This showed the major outline of problematics and challenges, is very similar in all regions (urban sprawl, pressure on open space, ...)

Use of forecasts / monitoring

On federal level

The Federal Planning Bureau constructs population projections for Belgium and the Regions (Flanders, Brussels, Wallonia) (For more information: www.plan.be) The latest projection dates from 2008. The main parameters that determine the population are be carefully examined: fertility, mortality, the decision to migrate

within the country, to go abroad or return to Belgium. The time frame is 2007 – 2060.

The Federaal Planbureau has a long tradition of following-up the work of Belgian and foreign demographers and other scientists about possible influences on the development of the population: it pays particular attention to the preparation of population projections, in cooperation with the Statistics and Economic Information (formerly NIS, now ADSEI) and a group of experts (demographers, geographers, sociologists, economists, public health experts and various users of that perspective).

The Federaal Planbureau participates in meetings and activities of international organizations on the subject (population projections prepared by Eurostat, Working Group on Ageing of the European Commission, the UN Commission on Population and Development, UN Summits on aging and their follow-up) .

On regional level (Flanders)

The "Studiedienst voor de Vlaamse Regering" carries out projections of population and number of households on municipal level, to be used by Flemish and local policy.
The first municipal population projections, the so-called MIRA projections for the Environment and Nature Report Flanders (Milieu- en Natuurrapport Vlaanderen), published in 1994. A first update was made in 2000, followed by updated projections in 2005 and 2011. Results can be consulted at http://www4.vlaanderen.be/dar/svr/Pages/2011-01-24-studiedag-projecties.aspx.
The advantage of the Flemish local projections on population and households is that they are based on local parameters in the prognosis assessment. Moreover, the method allows for a better distinction between urban and rural phenomena. Moreover, the projections also consist of an estimate of the number of households. The projections use a time frame of 2009 – 2030, with the side note that the figures are deemed to be fairly accurate until 2018, after that uncertainty grows.

The projections of the Studiedienst van de Vlaamse Regering are made up by a team of specialists on demography. They are mainly an extrapolation of existing trends and policies and do not take into account policy objectives. The results of the predictions are widely discussed, e.g. in the Flemish Parliament. Together with the departments (administrations of Flemish policy competences) they discuss about the implications of the projections for policy. In march a public seminar was held (concerned to find a translation of the figures or to policy. The new projections were also presented in a public seminar in March, and a next

seminar is planned in October, in which the focus will be on the implications for Flemish cities ("centrumsteden")

Relationships between forecasts and the declared measures

Demographic projections are needed for the signalization of themes / challenges to be placed on the policy (political) agenda, but they remain only projections. Needed interventions with regard to housing and elderly care / childcare / schools can already be deducted from current trends

In any case, great efforts are needed to be able to provide enough provisions for a growing population, and for certain age groups within the population, if only to respond to the projections until 2018. As mentioned earlier, results of the projections are discussed through bilateral contacts with concerned administrations, and used by the policy competences to shape their policies. This is e.g. the case in "Gezin, Welzijn en Gezondheid", mobility, spatial planning. In this last case the most recent projections will be used in a cyclical planning process. How will be discussed in the next paragraph (policy effectiveness)

Another example of the use of projections in Flemish Policy, is the use of population and household forecasts in the estimation of the required types of housing (family homes, apartments,…), which in turn is used by spatial planning for an estimation of space needed (with a different coefficient for homes and apartments). These guidelines are then passed on to local authorities.

In any case, the mere use of projections and estimation of housing required in different municipalities can be problematic since based upon trend scenarios. Proactive elements in local policy, e.g. the efforts of the "large" cities to attract families with children and counter the suburbanization process, are then not reflected.
Another remark can be made concerning the differential projections stated above (before and after 2018). It is acknowledged that projections after 2018 are less accurate, but it then is dangerous to place policy objectives on the agenda which make use of differences of trends before and after 2018. The discussion now seems to be how to provide for a changing demand for provisions in a flexible manner, account for the growth until 2018 but taking into account a downfall of growth after 2018. If the matter is not the case, the policy objective will have to be updated.
1.4.b Is the forecast activity embedded in a cyclic monitoring activity on the base of which changes in spatial dynamics become feedback for the forecasting activities?

Much more than in before, constant monitoring is effectuated on the existing trends and parameters, which is being closely followed and used as input for the forecasts.

3. Fields of policy interest to stakeholders

Introduction

In this chapter fields of policy interest are identified according to the revised mind map per global challenge. However, it is observed that the mind map consists of a mixed list of driving forces and related sectoral themes – which could be interesting for comparison with other European regions and can be used for the EU benchmark, but by trying to find a list of indicators for all those areas, one risks to end up with a long list of indicators that however to not relate to specifically spatial issues or that cannot be influenced by spatial planning alone. Due to the fragmentation of policy competences within Flanders, the monitoring system could risk becoming unclear and unworkable. This is even more the case since a vastness of Flemish monitoring systems exists already, sometimes based upon the specific challenges separately, and in other cases related to the Flemish comprehensive vision plans as an answer to global challenges and the European directives in particular.

In that respect, the challenges lies in the selection of a core set of indicators specifically related to spatial issues. These indicators should go beyond the notion that new challenges require new absolute area claims, or the definition of areas were certain kinds of land use should be completely allowed / restricted. In a region such as Flanders, in which space is limited, indicators should also reflect new ways of combining land uses and functions.

This chapter starts with the revisions of mind maps, but goes further than that, by distilling the typically spatial challenges and propose them as key indicators – next to the indicators that are defined as "key" since they directly measure benchmarks out of European Directives. Next to those, a broad set of secondary indicators could be devised, but in the assessment of data availability, those will not be considered of primary importance.

3.1. Climate change

3.1.1. Mind map

Originally, the mind map was designed as follows:

- Increase in extreme, but uncertain weather events:
  - Storms
  - Floods
  - wildfires

- Increase in temperature:
  - health hazard
  - change in ecosystems
- Change in precipitation patterns:
  - water scarcity

The mind map was changed in order to group those phenomena related to heat and those related to water issues.

Proposed mind map:

1. Increase in extreme, but uncertain weather events:
   - Wildfires
   - Heat islands
2. Increase in temperature:
   - health hazard:
   - change in ecosystems
3. Change in precipitation patterns:
   - (water scarcity)
   - Storms
   - Floods
   - ***Ground water level***
4. Migration patterns (due to climate change)

3.1.2. Climate change: Indicator set (cf. Paragraph 8.1)

Based upon aforementioned mind map, an initial indicator set is proposed of 23 indicators, in which the stress is put upon the measures that are indicating some driving forces of climate change (emission levels) and the direct effect (temperature rise), but also some very important impacts on environmental and social issues such as precipitation patterns, biodiversity and human health.

Within the proposed indicator list, two groups of key indicators can be distinguished:

The benchmark indicators:

Env25	**Greenhouse gas emissions in total**
Env26	**Greenhouse gas emissions per sector**

These are the benchmarking indicators which relate the climate change challenge to the Eu 20-20-20 policy. Data are provided by the Department of LNE (developed by VITO). These indicators are already available in a couple of other Flemish Monitoring Systems, such as "Duurzaamheidsmonitor" (http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2008-06-duurzaamheidsmonitor.aspx) and Europa 2020 (indicator 8)

(http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2011-01-13-europa2020.aspx).

The second set of key indicators is the one that **expresses spatial impacts related to climate change**. Since the mitigation challenge is closely related to the energy theme – both energy efficiency as green energy, indicators will be discussed in that paragraph.

A specific theme related to the diminishing of green house gases, however, is to assess the relative amount (or area) used for the plantation of trees that are explicitly efficient at CO2-captation (Env32). INBO (Instituut voor Natuur- en Bosonderzoek) is effectuating research on the theme at his moment.

According to the CCaspar project, climate change adaptation raises some specific spatial issues related to natural systems, landscape, human activities. As far as **natural systems** are concerned, the following elements could be indicative for the impact of climate change:

- Loss of biodiversity -> loss of Natura 2000 areas (Env02);
- Diminution of nature: fragmentation, desiccation and manuring are resulting in a decrease of habitat quality. This has off course negative consequences for biodiversity. According to this an indicator for fragmentation of nature is proposed (Cl01) (in development according to INBO, Natuurindicatoren 2011).
- A next group of described phenomena are developed within the Milieurapport indicators concerning the changing behaviour of some key species (arrival date of migrating birds, spring index dragonflies,....Env 33 – Env36.

According to the Ccaspar Report, effects of the primary driving forces (heat, precipitation, floods, increased CO2) are manifold and research about the specific directions and relative importance still have to be researched (CCaspar, 2011, pp. 58-64). In overall, however, it is assumed that climate change affects:

- Agricultural production (crops and cattle) (Cl02);
- Water quality (e.g. eutrophication) (Cl03);
- Decrease in groundwater reserves (especially in summer) (Env31);
- Loss of natural and manmade heritage (Cl04);
- Tourism: increase in tourism (e.g. coastal tourism) (Cl05).

- Destruction of forests and heath land by extreme weather events (heat and storms) (Env29).

Moreover, higher winter precipitation will cause an increase in river flow, inducing a higher risk for flooding (Ccaspar, 2011, p. 61). An important parameter in this respect is the percentage of paved ground (Env01). The higher this percentage, the faster the runoff and the higher the risk for flooding (Willems *et al.*, 2008).

Next to this, research in Belgium had given evidence for the so called urban heat island effect (UHIE) (Van Weverbergh et al, 2008, cited in Ccaspar, 2011, p. 79). The Ccaspar report states that research about this is in progress (Hea03).

The **third set of indicators is a first set of measurements about spatial strategies trying to counter the effects of climate chang**e, or making space more resilient onto it.

The extra stress of climate change implicates that an adequate spatial connection of the landscape becomes a condition sine qua non for tackling the dispersion problems. After a disturbance, a species' population recovers more easily in a well-connected spatial landscape (Vos et al., 2006). (In: CCaspar, p. 52).

An indicator for spatial connectivity of natural habitats in Flanders, is in development (INBO, Natuurindicatoren 2011). (Cl06)

The challenge of flooding could be tackled in different ways. Proposed are:

- Amount of farmers with compensation for water management (Cl07);
- Location of signal areas ("hard" functions in flooded areas);(Urb15)
- Location of high risk zones (where the construction of new buildings become almost insurable, a Federal initiative, cf. Belgian National Adaptation Strategy, p. 24). (Cl08)

The Ccaspar project states that for the urban areas that the used materials, amount of hardened surfaces, urban morphology (design), urban green and water can influence to a certain extent the UHIE (Ccaspar, 2011, p. 79). So it is proposed that the amount of urban green related to the built up area (Urb16) and the water surface related to the built up area (Urb17) could be two indicators for climate adapted urban development.

3.1.3. Data availability: assessment

It seems that numerous initiatives to construct indicators related to climate change are in effectuation. One can think of the Milieurapport (www.milieurapport.be) and the Natuur-indicatoren (www.natuurindicatoren.be), (the Duurzaamheidsmonitor (http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2008-06-duurzaamheidsmonitor.aspx) amongst others, which is an important data provider for the climate change indicator set. Next to this, a couple of research initiatives are in progress which could lead to new insights related to spatial effects of climate change. Some are mentioned in the former paragraph. In any case, it is worthwhile to consult the final report of the CCaspar project for new insights (http://www.ccaspar.ugent.be/).

It could be worthwhile, however, to collect additional information regarding:

- Local initiatives related to climate change (questionnaire to municipalities);
- The capability of the Flemish government to deal with the challenges of climate change in an adequate way.

Some indicators (yellow in the indicator list) could be further assessed for available data, but in this proposal of an indicator set they were not selected as key indicators. For this reason, they were not investigated further.

A theme which is not easily to quantify, is the proportion of inward migration which is due to climate migration. It is not clear how to quantify this, but this could be done by the consultation of experts.

3.2. Energy

3.2.1. Mind map

Originally:

- Consumption:
  Use of renewable energy
  - Energy saving:
    - Transport: less use of transport, energy-efficient transport, collective transport
    - Housing: energy-saving construction, energy-saving appliances, energy-saving behaviour
    - Recycling
- Production:

    - Potential and existing renewables: wind, hydro, solar, biomass, geothermal
    - Existing non-renewables: coal, nuclear, gas, oil
    - Smart grids
- Dependency:
  Energy-intensive production
    - Mobility: commuting, accessibility (remoteness)

CO2-emissions

Proposed mind map:

- Consumption:
  Use of renewable energy
    - Energy saving:
        - Transport: less use of transport, energy-efficient transport, collective transport
        - ***Economic sectors: number of companies specialized in renewable energy, emission rights,….***
        - Housing: energy-saving construction, energy-saving appliances, energy-saving behaviour
        - Recycling
- Production:
    - Potential and existing renewables: wind, hydro, solar, biomass, geothermal
    - Existing non-renewables: coal, nuclear, gas, oil
- ***Distribution:***
    - Smart grids
    - Energy distribution network
- ***Storage***
- Dependency:
  Energy-intensive production
    - Mobility: commuting, accessibility (remoteness)

CO2-emissions

- ***Affordability***
- ***Import level (renewables and non renewables)***

3.2.2. Energy: Indicator set (cf. Paragraph 8.2)

Based upon the mind map, a first indicator set was constructed based on issues related to energy consumption (non-renewables, green energy, energy efficiency) and energy production), energy production, energy distribution and storage – which is a new theme proposed in the Flemish case, and indicators related to energy dependency and energy affordability. Those indicators may not be all crucial for the assessment of typically spatial planning related phenomena, but could be relevant for EU benchmarking.

Within the proposed indicator list, two groups of key indicators can be

distinguished:

The benchmark indicators:

Ene31	**Share of "green electricity" / total energy consumption**
Ene30	**Total energy consumption**

These are the benchmarking indicators which relate energy challenge to the Eu 20-20-20 policy. Data can be found via the data portal of the "Studiedienst van de Vlaamse Regering", but are originally provided by VITO (www.energiebalans.be).

Both indicators are also available in the monitoring system "Europa 2020" (indicators 9 and 10)

(http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2011-01-13-europa2020.aspx).

The second set of key indicators is the ones that **express spatial impacts related to the energy change**.

Energy production is relevant to spatial planning, since different forms and sectors of energy production require space. In this respect the following indicators could be proposed:

- % area used for biomass and capacity (Ene13)
- % area used for wind energy of the spatial location of wind turbines and capacity (Ene14) and wind energy potential (Ene03);
- % area used for hydro energy and capacity (Ene15)
- % area used for the production of non-renewable energy (Ene23).

Next to these large scale renewable energy forms, decentralised forms of electricity production and recycling can be important for Flemish spatial policy. In this regard, the following indicators are proposed:

- Re-use of dirty water (Ene24)
- District heating (Ene25).
- Amount of charging/discharging posts for electric cars (Ene20; although this indicator could also be seen as an indication for energy storage possibilities).

Space is also required by **energy distribution infrastructure**. This not also means that information is required regarding space use and spatial connectivity of large scale infrastructures, but also about decentralized systems. No and

spatial distribution of smart energy meters could be indicative (Ene35).

Another aspect of energy demand is **energy storage facilities** (Ene36). However, further research should be effectuated to assess its space use, since it is most of the time not included in assessment studies of spatial demands for energy.

Although a set of indicators related to **energy consumption** are related to spatial issues, the measures with which to ensure energy efficiency are not related to the spatial planning competency (energy saving construction, promotion of energy friendly modes of transportation / modal split).

A competence of spatial planning could be, however, to monitor accessibility by different modes of transportation. For this aspect, however, we refer to the theme of demography.

A key challenge, however related to the energy challenge is to rethink spatial patterns in order to make them more energy efficient. Research effectuated in the Policy Center of Spatial Planning and Housing provides for some interesting proxy indicators for the evaluation of the existing spatial pattern related to energy efficiency. (Boussauw, 2011). In this research, influencing spatial proximity is proposed as a key aspect of spatial planning competency.

The research proposes some indicators of spatial proximity:

- Work balance (“arbeidsbalans”); (Ene37)
- minimal commuting distance (based on place of residence) (Ene38)
- minimal commuting distance (based upon place of work) (Ene39)
- weighed proximity to facilities with a quasy daily frequency of visits (e.g. Schools, day care, supermarkets, doctors, restaurants, sport facilities,...) (Ene40) (cf. Boussauw, 2011)

3.2.3. Data availability: assessment

According to the energy theme, there seems to be a lack of available data concerning space use of energy sectors in Flanders. However, Tylberghien addressed the matter in the master thesis “Ruimte voor Energie in Vlaanderen: nadruk op hernieuwbare energiebronnen”. (Tylberghien, 2006-2007).

The indicators of decentralized energy systems also require further investigation towards data availability.

It is possible to account for missing data by qualitative research and expert consultation.

3.3. Globalization

3.3.1. Mind map

The mind map has not been altered significantly, although within the heading "increase of international traffic" as an indication of increased mobility, TGV was added as an important mode of transport; moreover the distinction between traffic of passengers and freight deemed to e important.

- Competition on global sales markets
  - Specialization in specific segments of production
  - Qualification of labour force
  - Costs of production: labour, land/office space, other costs
  - Importance of agglomeration economies: building of sectoral clusters, metropolitanisation, pressure on land use in specific areas, urban sprawl
  - Accessibility to markets, suppliers, resources
  - Productivity
  - Innovation
- Insertion into multinational firm networks
  - Knowledge spill over
  - Power and control / dependency on decisions taken elsewhere
- Increased mobility:
  - Increased migrations: evolution of total population, new types of population
  - Increase of tourism: availability of accommodation, change in types of tourism/tourists
  - Increase of international traffic (notable air ***and TGV) but also difference between passengers and goods traffic***
- Less stability on the labour market
  - Unemployment
  - Unstable employment
- Regulation decisions made at higher scales (from WTO to national)
  - Cost competitiveness
  - Access to markets
  - Labour market regulation
- Competition on global markets for labour force:
  - Quality of local education
  - Quality of life

- Growth
  - GDP
  - Employment
- Entrepreneurship
- Poverty

Next to this mind map, two themes were added and deemed to be crucial:

- ***Social cohesion;***
- ***Homogenization - disneyfication of landscapes.***

3.3.2. Globalization: Indicator set (cf. Paragraph 8.3)

Key indicators with respect to globalization relate to themes and the way the challenge has to be met according to the EU2020-strategy. Next to this, Via (Vlaanderen in Actie) also proposes a large set of indicators which have to be benchmarked. Relevant information can also be found in:

Omgevingsanalyse Vlaanderen:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/AO.aspx

Armoedemonitor:

http://www4.vlaanderen.be/dar/svr/publicaties/Publicaties/monitoren/2011-03-23-armoedemonitor.pdf

www.vrind.be:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2008-06-vrind.aspx

Pact 2020: nulmeting and eenmeting:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2008-06-pvv.aspx

The global entrepeneurship Monitor (Vlerick):

http://www.vlerick.be/nl/media/pers/persberichten/14754-VLK.html

Duurzaamheidsmonitor:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2008-06-duurzaamheidsmonitor.aspx

ICT-monitor:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2009-01-29-ict-vlaanderen.aspx

Kernindicatoren conjunctuur:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2011-01-13-kernindicatoren-conjunctuur.aspx

Vlaanderen Internationaal:

http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2008-06-vlaanderen-vergeleken.aspx

Due to the very extensive mind map, the indicators accounting for these trends on the scale level of Flanders, has become vast and extensive. Even the indicators to benchmark globalization related issues according the PACT 2020 are extensive.

Based upon this observation, it is recommended to transform this long list into a short list with the most relevant indicators.

As far a benchmarking indicators are concerned, "Europa 2020" (http://www4dar.vlaanderen.be/sites/svr/Monitoring/Pages/2011-01-13-europa2020.aspx) provides for a monitoring system for the benchmarks put forward by European Policy (indicator 1 – 7, indicator 11-15).

We propose the following benchmark indicators:

Benchmarks:

Edu02	**Early school leavers, 2007**
Tec02	**Expenditure on R&D, 2007**
Glo31	**Employment rate**
Glo11	**Growth: GDP**
Glo13	**Growth: employment**

This set of indicators serves to monitor against European benchmarks, which are:

- Employment for 75% of the population between 20-64 years ; (Glo31)
- 3% of the EU-BBP to be invested in R&D (tec02);
- Reaching the "20/20/20"-climate and energy targets (cf. climate and energy);
- The school drop-out rates should be lower than 10% and at least 40% of the younger generation (30-34 year olds) should have a degree or diploma (Edu2 and Glo32);
- The number of people, who are poor or socially excluded, should be diminished by 20 million. (www.vlaandereninactie.be)

As far as indicators are concerned which relate to spatial aspects of globalization, two crucial aspects were mentioned (workshop, 20 October 2011). First, the presence of agglomeration economies and specific forms of it / analysis of location strategies of specific target economies, and aspects of landscape

homogenization.

Next to this, knowledge of (the evolution) of specialization of economies within the Flemish territory, and the spatial distribution within designed areas (industrial terrains) or rather scattered developments, can be worthwhile to monitor.

As far as homogenization of landscapes is concerned, two indicators were proposed, respectively indicative for homogenization of rural and urban areas.

- Glo19: homogenization in rural areas: scale enlargement in agriculture
- Glo 22: homogenization in urban areas: share of retailing belonging to international chains
- Glo23: homogenization in urban areas: scale enlargement in retailing

Although other indicators for these phenomena could be devised, this selection is based upon availability of data.

The Policy Center of Spatial Planning and Housing developed methodologies for indicator development related to the spatial distribution of economy in Flanders (Lievois et al, 2011).

Within a case study analysis, a methodology was proposed to measure economic activity in "rural" areas. This methodology could be applied for the whole of Flanders, but a lot of processing is required onto the VKBO (dataset used for the analysis). A proposal could be to select a subset of rural municipalities and measure the evolution of economic activity there.

Related to economic specialization of areas, a methodology was proposed to measure a specialization index of agriculture and forestry, industry and services respectively, but every selection on the basis NACE categories used in the RSZ is possible to measure specialization in a specific economic activity. In www.ruimtemonitor.be, a specialization index of retailing and logistics is proposed, but other combinations of nacecodes are possible.

Data on the occupancy of industrial terrains can be obtained by AO (Agenstchap voor Ondernemen). Indicators could be developed with these dataset.

3.3.3. Data availability: assessment

A couple of datasets concerning economic datasets and employment are available in Flanders. Moreover, on Flemish scale level a couple of monitoring systems are developed for European benchmarks related to globalization, specific Flemish strategies (Pact 2020) and specific themes (e.g. Global Entrepreneurship Monitor, Armoedemonitor,…)

Within the Policy Center, methodologies are developed which could lay a foundation for a spatial indicator system related to economic developments.

However, it is quite hard to grasp the notion of agglomeration economies. No data exist on added value, which are geographically fine-grained enough to assess specific agglomeration economies like:

- The relationship university – R&D;
- Logistics – multimodal platforms;
- …

For this theme other methodologies should be worked out.

Two possibilities:

A questionnaire to R&D companies on their location strategies;

An expert focus group.

This theme will be further elaborated upon in chapter 4.

3.4. Demography

3.4.1. Mind map

Originally:

- Quality of life / attract population
    - Environmental quality: air, noise levels, green spaces
    - Cultural and recreational amenities
    - Service and infrastructure provision
    - Accessibility
    - Affordable quality of housing
- Increase of number of households -> pressure on land use
    - Urban sprawl

    - Densification
    - New types of urban architectures
- New composition of population
    - Ethnic composition: new use of public spaces, socio-economic conflict along ethnical lines
    - Ageing: new housing needs, new infrastructure needs, new service provision needs
- Population decrease
    - Population decrease: access to services, access to infrastructures

New proposal:

1. Quality of life / attract population
    - Environmental quality: air, noise levels, green spaces, ***water bodies, odour levels, light pollution***
    - Cultural and recreational amenities
    - Service and infrastructure provision
    - Accessibility
    - Affordable quality of housing
2. Increase of number of households -> pressure on land use
    - Urban sprawl
    - Densification
    - New types of urban architectures
3. New composition of population
    - Ethnic composition: new use of public spaces, socio-economic conflict along ethnical lines
    - ***Family composition***
    - Ageing: new housing needs, new infrastructure needs, new service provision needs
4. Population decrease
    - Population decrease: access to services, access to infrastructures
5. ***International and internal migration***

3.4.2. Demography indicator set (cf. Paragraph 8.4)

According to the mind map, a proposal of long list has been effectuated. In the assessment of key indicators, benchmarks are retained and indicators which relate to spatial planning.

Related, to the demographic aspect, specifically, no benchmarks are provided. Obviously, the provision of job opportunities and welfare (actions against poverty) are demography-related themes, but are momentarily classified within the globalization indicators.

Spatial issues related to the demography challenge are how population growth affects urban sprawl. Since ESPON methodologies are not adequate to characterize the strongly polycentric Flemish system, it is proposed to look for indicators on a more detailed scale level.

Within the Policy Center of Spatial Planning and Housing, a set of indicators was proposed to depict **residential growth and urban sprawl**. (cf. Ruimtemonitor.be).

More in particular, the growth of households per statistical sector has been used as an indicator for residential growth (Dem08), although GIS datasets of built up parcels can be used to construct indicators of the evolution in build up area as well (Dem10). Densification can be measured by the evolution in average parcel size (Dem01). For this indicator reference is made to the work of the Policy Center of Spatial Planning and Housing.

Spatial challenges to be met are ensuring **quality of life**:

- Environmental quality: Dem12, Dem13, Dem14, Dem15, Dem16
- Cultural and recreational facilities: Dem18, Dem19, Dem20, Dem21;
- commercial structure: Dem22;
- Provisions for children: Dem22, Dem23, Dem24
- More in particular related to the challenge of ageing, proposed indicators are:
- Amount of rest home beds (Dem32);
- Amount of health care provided at home (Dem33).

Another spatial challenge is related to accessibility, on which a proposition was made in the Policy Center of Spatial Planning and Housing (cf. Boussauw, in Lievois et al, 2011):

- Dem26 accessibility: supply of train connections (working day)/population
- Dem27 accessibility: supply of bus and trams (working day)/population
- Dem28 Accessibility: potentially reachable population (methode Vandenbulcke)
- Dem29 Accessibility: difference between car travel time in peak and low moment to important Belgian metropolitan regions

Furthermore, it could be relevant to monitor the evolution of population composition on a more detailed scale level, e.g. Ethnic composition (Dem04), no of single households (Dem05), ageing (Dem06) and "greening" (Dem07). All data are available at municipal level.

3.4.3. Data availability: assessment

The assessment of data availability and easiness of access to the data depends upon the spatial level in which the data are required. Is the monitoring system seen as a device to quickly asses the evolution of trends measures on the scale level of Flanders as a whole, or is it meant as a system which also supports more localized spatial decisions, e.g. indicators as a tool to make decisions on new spatial locations for residential development, commercial, cultural facilities, etc…

It is expected that, if more detailed indicators of environmental quality are required, those can be obtained in cooperation with the department of LNE, information concerning cultural facilities, child care, services for the elderly respectively by the ministry of culture, "Kind en Gezin" and the "Agentschap Zorg en Gezondheid". Very detailed indicators concerning commercial structure can be obtained by making use of the Locatus Databank, which is private property of a commercial developer, but efforts are being made to make data agreements for use within the Flemish Government. Debecker and Cant developed GIS tools for the construction of spatial indicators based on the dataset (Deel3: Locatie Detailhandel, in: Verhetsel et al, 2011).

4. Resilience of the Planning System

1.5. Strategic capacity of the planning system

Vision

The planning system includes the making of spatial visions and strategies (spatial structure plans) for the Flemish region and for the 5 provinces (and for the 308 municipalities). Some of these visions are also elaborated in subregional spatial planning processes. The vision can be considered rigid, in particular for what concerns the process of changing it. The delay between changes in spatial dynamics and updating process might cause some incoherencies.

The visions for the Flemish region (RSV) ,and for the provinces (RSP's) and the muncipalities are explicit spatial visions. They include sectorial parts but integrated in the overall vision.

In principle these visions are comprehensive and intersectorial. Most of the plans cover a wide range of sectors. A closer looks shows more specific compromises[1]. E.g. the RSV of 1997 covers guidelines for a wide range of sectors but shows two compromises, one between the protection of open areas and economic development and one between agriculture and nature.

As far as the updating is concerned of vision (objectives, spatial concepts and/or policy goals), based on changes in the spatial dynamics of the region or new challenges, the formal planning system includes the making of structure plans since 1996. The RSV and some of the RSP's have since then been updated, but have not yet been completely revised.

The spatial dynamics are updated by a document called "Ruimteboekhouding"XXXX (Book Keeping) in which the aims of the planning documents are translated in land-use quantitative aspects.

However, there is no formal obligation in updating the vision (e.g. with a formal lifetime of the plan and/or the vision). Such a condition means that only if there is a political intention the vision can be updated. It is part of the rigidity of the system. The Beleidsnota Ruimtelijke Ordening 2009-2014 stipulates the construction of an update of the SRV, the BRV, within this legislation period. It

[1] The term compromises can be specified as political decisions on issues that rises crucial conflicts and value struggles: on the one hand economic development, and the exploitation of the land, on the other hand the preservation of open space, etc, as well as agriculture vs. natural resources.

also holds the ambition of being a part of a circular planning process. The first phase is the construction of a Green Paper (end 2011), the next step consists of the construction of a White Paper, and the effective encompassing spatial planning policy document "Beleidsplan Ruimte" should be ready at the end of 2014.

The double compromise in the RSV 1997 was created and shared by the stakeholders of these compromises. Quite a lot of the strategies in the plan have also been implemented. However, since then the societal context has changed and no longer fully supports the compromise of the RSV. This shows in the revisions of the plan. The RSP's were drafted after the RSV and had to follow a number of guidelines by the Flemish government, making parts of some of these plans less supported by a number of important stakeholders, esp. right wing politicians. Revisions of the RSP's express changes in political interests.

Momentarily, the BRV team has effectuated a public consultation process concerning spatial issues, and also a consultation of experts. It is to be expected that harmonization with other policy domains will be crystaliized in the core team of the BRV (with representatives of other policy domains).

As far as flexibility is concerned of updating to new challenges outside the lifetime of the plan, there is no strict lifetime of these plans. They remain applicable for as long as the plans aren't replaced by others and thus can be changed - following (quite elaborate) procedures as foreseen in the law - any time. Also, (1) plans in practice plans have been revised partly without changing the whole plan, (2) the facto developments sometimes just sideline the current vision, (3) institutionalisation of the system has aggravated the administrative and juridical procedures around the making of spatial structure plans. All in all, there is quite some flexibility but less than was envisioned by the designers of the planning system.

Objectives

Objectives can be seen of collective learning and protection of collective values esp. nature and democracy embedded in the planning system of 1996/1999 itself. Later revisions of the planning system have shifted these objectives towards a stronger protection of individual property ownership.
Objectives expressed in the RSV included (1) protection of ecological values esp. connected to the water system, (2) putting a halt to urban sprawl, (3) strengthening the cities and (4) economic development esp. connected to harbours and airports. Similar objectives are expressed in the RSP's. Revisions of the RSV and RSP's mput more focus on the objective of economic development.

Spatial structure plans contain both visions/objectives and actions. Actions however are limited in their scope to the spatial.

Measures are content-wise coherent with the general vision, in the case of the RSV and the RSP's. Due to recent partial revisions the plans however sometimes are beginning to show frictions between general visions and measures.

The RSV had a 15 year time horizon. The new RSV which is now prepared seems to have a double horizon of 10 years and 40 years. Time horizons are indeed adjusted.

There is no form of prioritization in the time plan and in the organization of the objectives; prioritization is done in (yearly) operational programmes and decisions following the spatial structure plans. Budgets are allocated not in the spatial structure plans but in the operational programmes.

As far as stakeholder involvement is concerned, both in the RSV and in the RSP's: public actors of different policy levels were involved in the definition and actuation of the policy objectives, main (semi)civil socio-political organisations (employers, unions, different sectors). However, an additional consideration refers to some potential conflictive situations between different sectors and spatial planning. Some coordinative bodies (which ones?) have been formed to coordinate policies aside spatial planning. However, some changes have occurred around the beginning of 2000, with new political configuration in relation to the previous period (decade?). In that occasion the focus on space as a tool for integration moved to other sectors, with consequent dispersion of the integrative capacities in sectorial competences and autonomies.

It is also worth highlighting how the gap between spatial issues and social & economic issues is growing in a structural way. Again, it is a matter of political decisions.

Monitoring

(Instrumentalist) policy impact analysis is rather structural. More processual and socio-political evaluation is rather rare and done on ad hoc basis.
Actually there are three types of monitoring and analysis:
1. impact analyses, in particular the ex-ante analyses, which are widely spread.
2.'Bookkeeping' is a quantitative monitoring tool (not clear: how and when is updated? What are the items)

In particular the Policy Centre could have an important role in monitoring the spatial dynamics. However, during the last years there was no consensus on its

role, and it is not embedded in the planning system, due to its embryonic level of its construction.
As a general consideration, moreover, it is often difficult to make evaluation, since it raises the fear of a political assessment.

Some structural spatial monitoring tools are under construction. The Policy Centre of Spatial Planning and Housing is assisting the department of Spatial Planning in the construction of the "Ruimtemonitor", in the mean time also in the conceptual framework for a structural monitoring system, as far as the situational analysis is concerned. In the light of restructuration of the department, a separate working group is established to outline the policy evaluative aspect of the monitoring system.

In the next call of the Policy Center, a work package is included concerning monitoring and policy evaluation. This gives the opportunity to embed monitoring and policy evaluation in a more structural way in the planning process. Whether this assessment process will have the capacity to influence policy makers through feedbacks, will have to be seen in the future.

Communication

When the planning system was changed in the mid 1990's, it was subject of debate among political and semi-political actors, but not really in the media. The RSV was also quite widely debated, efforts have been made to also bring it in the media. In the 2000s criticism towards planning as a constraint to economic activity and individual property development has been publicly debated and gained widespread support.

Actually, the BRV is giving attention to the aspect of stakeholder consultation and involvement of the broader audience through different initiatives (cf. also supra). This is a reaction to a societal process of an alienation of the general public from the necessity of structural planning and collective interests.

Processes for the RSV and RSP's have been quite efficient. As mentioned before included actors are mostly institutionalised political actors and socio-political organisations. Less evident stakeholders were not involved.

The efficiency of the actual consultation process will still have to be assessed.

However, the debate concerning the strategic challenges of spatial planning is rather specialist matter.

1.6. Horizontal coordination / integration of policies and instruments (and stakeholders)

In principle the spatial planning system is capable of enabling horizontal integration in concrete planning processes. In practice this integrative capacity is affected by the rising focus on individual property rights, the institutionalisation of planning processes in strict procedures, the reduction of planning to purely spatial issues and thus the current limited link to socio-economic and social issues and debates and the reduction of planning implementation to the making of land use plans. These elements express the current weak socio-political position of planning in Flanders, due to market oriented societal shifts.

It should be also perfectly possible for the planning system to provide answers combining different sectoral measures and coordinating the activities of different stakeholders, but with the same constraints as mentioned above. The spatial planning system also feels the need to be strategic, since the former RSV was thematically inclusive and overwhelmed by themes to be tackled. Also due to budgetary constraints, choices will have to be made. Certainly in the discussion of multifunctionality of spaces and shared use, the conflict with property rights and juridical certainty is something to be prepared of,

Relationships between different fields (spatial planning, sectorial competences/directives, developing strategies) and the predominance in terms of planning dynamics are not fixed but have shifted and will shift again in time. At the end of the 1990s Flemish spatial planning succeeded in contributing to and spatially expressing some major compromises between conflicting sectoral spatial claims. In the 2000s however spatial planning (on the Flemish level) was less and less seen as capable of contributing to spatial compromises but instead as mere implementor of decisions made beforehand. AT this moment I would say that sectoral claims on the one hand and developing strategies predominate over spatial planning, although this varies over different planning processes. I argue that there is a need of a new compromise between sectors (and their societal positions and spatial claims), which includes spatial planning in the construction of this compromise.

In a whole, a reduction of 'collective responsabilty' can be seen as a trend of the last years. It concerns the reduction of the capacity of tackling collective challenges, e.g. climate change. There is a difficulty in affirming priorities in the name of collective needs. This process is what P.v.d.B addresses as process of individualization, according to which the spatial dynamics are driven more and more by individual(istic) decisions and less in the name of the collectivity.

Collective challenges are less seen as spatial issues due to individualization/liberalization of ownerships (e.g. the changes in regulation about building permissions).
In addition, the absence of obligation to update the vision every certain period of years (e.g. the Netherlands – to be verified) avoid the presence of certain collective challenge at stake. The new BRV has the challenge to provide an answer to this situation.

1.7. Vertical coordination / integration of policies and instruments (and stakeholders)

The spatial planning system obliges the Flemish government, the provinces and the municipalities to make spatial structure plans. This creates planning expertise on different policy levels, and ways of cooperation between these levels. Also, spatial planning processes for the RSV and RSP's has initiated numerous subregional spatial planning processes, in which the different policy levels do cooperate (cf. introduction).

There is no national spatial planning system. At this moment subregional planning processes sometimes touch upon supraregional issues (especially spatial planning in areas around the Brussels region). This sometimes leads to partial integration between perspectives of the Flemish and the Brussels region, but not on a structural basis.

It is not clear (to P.v.d.B) how the EU funds are managed in the administration.
Note to be verified: once there was a sort of Regional Development Planning approach, in which the EU funds where managed with a territorial perspective. Nowadays, they are scattered among different departments dealing with Economic resources.

Concerning the relationships and the integration capacity of the planning systems with the lower levels (provinces, municipalities), cf. the subsidiarity principle (introduction).

1.8. Communication

Public-Private partnerships and cooperation

There are no specific concepts, regulations, guidelines on including PPP in spatial planning. Frames on PPP are included in other specific legislation, fora, policy documents, ... Through the support of urban projects by the Flemish government

and the condition to include PPP's in these projects, PPP was introduced in urban design oriented spatial strategies.

As far as the capacity to shareholding with public and/or private stakeholders the general vision and the specific objectives and privileged interlocutors, cf. also supra. The planning system of RSV and RSP's is in principle rather process oriented and enables development of shared visions and objectives. In practice today, many societal influences push planning processes to be rather product oriented, thus constraining the capacity of planning to construct compromises between different stakes and shared goals.

The cooperation is more and more product-oriented. The rooms for activating processes of investigation on complex issues are becoming rarer. The general political trend is a plea is for immediate solutions. MoreoverTogether with this general trend, concerning space, these the search for solutions concerning space are more toward land use regulation that toward policies.

NGO's cooperation and citizens participation

In principle the planning system does not put any constraints on the cooperation with NGO's and other stakeholders in case of specific aspects of spatial challenges.

Formal planning procedures guarantee a minimum input of citizens in planning processes. Informally however a much larger input is possible and often pursued. Sometimes this input is public relations oriented and aiming at gaining support for predefined strategic options. Sometimes this input is considerable and part of open-ended planning processes;

See also supra.

5. Effectiveness of Policy Bundles

1.9. Climate Change

Direct/indirect relationship with the macrochallenges

Several policy plans (Flemish, federal, spatial planning, sectoral, general development strategies) deal with the problematics of climate change.

The theme is present in the encompassing development strategy "Vlaanderen in Actie" (VIA Pact 2020). One encompassing vision is that in 2020, it should be one of the best performing European regions as far as ecology and energy is concerned. The pact responds to the Europe 20-20-20-strategy. The vision put forward in VIA, should be translated in the different policy documents of the actual Flemish Government (2009-2014).

Relevant documents are:

- Federal plans:
  - National climate policy plan.
  - Belgian National Climate Change Adaptation Strategy
- Policy memos of different Flemish policy competences:
  - Policy document Spatial Planning (2009-2014).
  - Sectoral policy plans, most notably :
    - Policy plan on energy (Energiebeleidsplan) (2009-2014);
    - Milieubeleidsplan (update 5-yearly, in the latest policy plan a more explicit address to the theme)
- Specific Flemish "transversal" policy plans:
  - Climate policy plans (in a cyclical process) :
    - Klimaatbeleidsplan 2000-2005 ;
    - Klimaatbeleidsplan 2006-2012;
    - Klimaatbeleidsplan 2013-2020 (due 2012)
  - Flemish Adaptation Plan (due 2012)

The two most important and central plans to the theme, are the Climate Policy plans on mitigation – with the Klimaatsbeleidsplan 2013-2020 as the most recent - and the Vlaams Adapatieplan. Both are now in stage of development, due 2012.

Different strategies are being worked out for mitigation and adaptation, since the perceived time frame for necessary action is different and different thematical scope (and stakeholders involved), different approach (mitigation: top down, adaptation, bottom-up).

The actual challenge of the **mitigation strategy**, is to reach the European targets considering GHG emissions, which are fixed per year until 2020; and in this respect the following-up of indicators *Env25 and Env26* are crucial. As such it implements a European *top down* policy in the regional context of Flanders. The department LNE has a coordinating role in formulating objectives for the sectoral themes and also providing research (effectuated by VITO) to propose reduction paths per sector, with a concrete time frame of reduction achievements. This is only for those sectors who are not concerned with emissions trading regulations, which is regulated by Europe (economic sectors). Harmonization with related policy plans such as the "Vlaams Toewijzingsplan Verhandelbare Emissierechten 2008-2012" is however necessary. The plan also includes the Flemish Vision for the preparation of climate regime after 2012. (VKP, 2006, p. 6)

As far as collaboration with other policy domains is concerned, the Klimaatbeleidsplan 2006-2012 followed a set of sectoral and a process dimensions, as such:
10 different objectives: 5 sectoral objectives with targets for "sustainable and climate friendly mobility", "rational energy use", sustainable and low-carbon energy provision, industry and sustainable agriculture and forestry. 5 horizontal, supporting objectives are research and innovation, sensibilization, flexibility mechanisms, the exemplary role of the government, and adaptation strategies to climate change (VKP, 2006, p.6).

In Belgium a substantial part of the necessary **adaptation** to the climate change has already been initiated from the *bottom up,* with a starting initiative by the competence of "water policy".. Both on local level as on sector specific level, the sense of urgency has inspired many people to take action in fields as diverse as health, tourism, agriculture, forestry, biodiversity, ecosystems, water, coastal, marine and tidal areas, production systems and physical infrastructure. To cope with the climatic changes, they started to construct monitoring schemes, to build physical barriers and to induce changes in people's behaviour. For these areas a quick overview of the effects of climate change and the adaptation measures already taken, have been included. It is interesting to note that the actions in these fields are not only based on the defence against threats, but also on finding new possibilities and capitalising on favourable changes. (National Adaptation Strategy, p. 6). An intensive consultation process should uncover possible synergies and conflicts, although a lot of those conflicts (eg provision of potable water) should be tackled by the CIW (Commissie Integraal Waterbeheer). Adaptation also provide a "Bouwstenenstudie" (commissioned by LNE), a sort of manual which should give support to other competences to address their theme within the Flemish Adaptation Plan.

As such, both plans are coordinating the policy options for the other Flemish competences, and giving recommendations for an effective policy implementation.
Obviously, cooperation exists between both plans. This is because of the necessity of non-mutually-conflicting strategies, and the opportunity to find measures that are synergistic to both problems. Thus the approach is coherent in the sense that they work together, and both give support to other involved sectoral competenecies, to address the global challenge in their policy domains.

The approach is coherent in Flemish policy, in the sense that everyone is aware of the necessity and urgency of a **mitigation** policy: the diminution of greenhouse gas emissions. The theme is also present in the encompassing Vision for Flanders (VIA) . The plan also mentions the vision of a circular economy and the implementation of an adaptation policy. As far as **adaptation** is concerned, there seems to be a smaller sense of urgency on political agendas. It is to be expected that the "Vlaamse Adapatieplan" (due 2012) will propose policy measures.

Process and consultation with stakeholders/citizens

On this moment, the Adaptatieplan and the Klimaatbeleidsplan are in the stage of preparation. Both have their own steering committee, with mutual representatives and also of other policy competencies. Also here mutual synergies and conflicts have to be uncovered in a process of intensive consultation.

One could note that both initiatives could be bundled in a mutual alliance in a combined approach to the problem. This is not been done yet since the different policy domains and the proposition that more research is needed towards possible synergies/conflicts.

Mitigation should be very closely linked to the theme and policy competence of energy. This is not evident, since both competences have a different minister with a different political ideology. The feeling exists that climate policy was only involved in the energy efficiency plan in a very late stage. VEA and LNE work together, however, considering the forecasts.

As far as stakeholder involvement is concerned: during the construction of the former Klimaatbeleidsplan 2006-2012, a Task Force Climate Policy Flanders" was founded. This involved representatives of administrations and cabinets, for the implementation of a joint climate policy. This worked for a while but was not efficient. Now this group only communicates by email. In 2005 there was also

Climate conference, and a very broad consultation process with different working groups. The stakeholders were very satisfied with the process, but is was not considered enough on political level. This caused some demoralization.

Drawing on the experience of the past, in this moment a more restricted task force is operational as an overarching organ and to review the possibilities on different policy levels. When a more specific theme is addressed, a more elaborated group of affected stakeholders is consulted.

This collaboration is eg. very good eg with the policy domains of agriculture and fishery: last year cooperation was focused on mitigation and this year on adaptation.

Another initiative is the working Group Climate Roadmap 2050. This aims to translate the European strategies (http://ec.europa.eu/clima/policies/roadmap/index_en.htm) on Flemish level.

Political instructions sometimes cause a delay in the consultation processes, which can pose a problem.

As far as **adaptation** is concerned, it is easier to persuade politics, since the fact that it is not so urgent on the political agenda. But is it not the fact in the management of flood risks? Adaptation and climate policy sees this more as a result of a bad spatial planning in the past, and also see this as a task of spatial planning. However, adaptation and mitigation could work other combined strategies to construct energy-poor and adaptive neighbourhoods. Selecting the locations is the responsibility of spatial planning.

On 25th may 2011, a Climate Conference was organized focusing on the theme of adaptation.
(http://www.lne.be/themas/klimaatverandering/adaptatie/evementen/vlaamse-klimaatconferentie-adaptatie)

Strategic capacity of the policy bundles

The vision is updated in the sense that the priority of a climate policy was not sensed in earlier policy documents (eg. Environmental Plans, Ruimtelijk Structuurplan Vlaanderen). Now it is part of an overarching vision plan (VIA) and is coordinated by the Klimaatbeleidsplan en Adaptatieplan.
Since climate policy planning is effectuated in policy plans every 5 years, and a possibility of a yearly update of operational measures in the Progress Reports, it is possible to embed new strategies. An example: CO2-captation, a new theme in climate planning and suggested by European policy, was not present yet in the

actual "Klimaatbeleidsplan 2006-2012", but will be included in the next one. Research about this theme is actually being effectuated by the INBO (*Env32*).

The mitigation planning is evidence based in the sense that the evolutions in some very important indicators are closely followed (cf. http://www.milieurapport.be/nl/feitencijfers/MIRA-T/milieuthemas/klimaatverandering/) and the Klimaatbeleidsplan also has special attention to indicators in order to follow up the effects of the measures which have to contribute to the general goal and specific objectives, (VKP 2006, p. 6).

The broeikasgasinventaris is another tool for the monitoring of green gas emissions.

Articulation in objectives

An overview of concrete measures concerning mitigation can be consulted on: http://wwwb.vito.be/Klimaatplan/database/database.aspx?lang=NL&name=Database

Measures considering adaptation will be included in the Flemish Adaptation Plan; for now reference is made to the Belgian National Climate Change Adaptation Strategy.

Whether the measures of mitigation and adaptation are mutually coherent, is too early to tell. Coherence, synergies and conflicts will be analyzed in de steering committees of both plans.

Within the planning period of the Klimaatbeleidsplan (2006-2012), there is no prioritization; everything has to be effectuated now since the time frame is very short (2020). For the preparation of the following period (2012 --), a time framework was set out. It can be expected that a similar strategy will be followed in the next Klimaatbeleidpslan 2013-2020. The department of LNE is actually preparing this stage by following the Climate Road Maps (European Commission) and commission research on possible reduction paths per sector (VITO).

The Adaptation plan is still in the stage of development. When it is finished, prioritization strategies could be checked.

In paragraph 5, some aspects concerning monitoring were already mentioned. However, the monitoring and indicator system of the "Klimaatbeleidsplan" will have to be updated since now much shorter targetst have to be met in comparison with the earlier plan. (yearly)

Efficiency of the strategic capacity of the policy bundles

Predominance and the first initiative lies with department (LNE) for the moment, together with agriculture and fishery. There should also be cooperation with the competence of energy.

A representative of spatial planning is also involved in the drawing up of the climate policy plans. It is to be expected that climate change will be a very important theme in the BRV.

As far as vertical integration is concerned, LNE has the main competence, but there are national initiatives concerning climate policy (adaptation and mitigation), with which the Flemish level has to coordinate and harmonize. Cooperation with European levels seems to be rather top down (at least for mitigation).

There is certainly awareness in specialized and public debates. There are forms of involvement in the consultation process in the development of the policy plans. A list of stakeholders could be given if necessary.

In general, harmonization of policy is not always easy, caused by:

- Competence of different ministers;
- The possible lack of political courage to take unpopular measures (eg rekeningrijden, investing in an expansion of the energy grid necessary for a better connection with green energy plants, which call for big infrastructure projects).

In conclusion, a societal mentality change and societal transition is required to tackle the problematics of climate change and to reach the mitigation targets of reduced greenhouse gas emission.

1.10. Energy

Direct/indirect relationship with the macrochallenges

The question concerning the proportion of green energy is primarily a responsibility of the Ministry of Energy and the Flemish Energy Agency, so is the coordination at the Flemish level, of measures related to the reduction of energy consumption (cf. Beleidsnota Energie, 2009-2014).
The theme is also addressed by "sectoral" competence levels, such as:

- Housing policy (with special reference to the economization of energy in new building projects, renovation, social housing,,…) (Ene18, Ene19, Ene34)

- Mobility policy;
- Agriculture policy.

….which are the most important sectors in which measures can be taken.
Also spatial planning could contribute by thinking about spatial constellations which are most energy efficient and it is to be expected that the theme will be tackled in the new policy plan. The theme was not present in its predecessor, the "Ruimtelijk Structuurplan Vlaanderen", but is it to be expected that BRV will deal with the issue. Next to the provision of energy economizing residential developments, the theme of new, large scale industry parks or office developments which can be connected to the transport network in an sustainable way (VIA, p. 17-18), is also an attention point for spatial planning. Spatial Planning is also looking into the theme of smart grids, which is also a clrea policy guideline/objective in the "Beledsnota Energie" (Ene35).

The two most important overarching documents to respond to Europe 2020 concerning energy are:

- The energy efficiency plan (2008-2010; the next plan with a following up for the progress made will be ready at the end of june 2011, next one 2014; a 3-4 yearly process)
- The plan renewable energy (which is a national plan).(Nationaal Actieplan Hernieuwbare Energie,2010).

It is coherent in the sense that the vision is present in the overarching development strategy "Vlaanderen In Actie", and specific plans exist in which the problem of energy reduction is addressed, one especially for reduction of energy use and one for renewable energy, which clearly monitor the actual developments and forecasts until 2020. The vision in VIA states meeting up of the European standards, and the expansion of production capacity for electricity, in which there is a considerable share of renewable energy and qualitative cogeneration. The power grid will be internationally interconnected and smart, on which decentral production-units and new applications can be linked up. (VIA, p.25-26)

An important problem is that some of the competences on energy are federal matter. This results in national actions plans concerning energy, such as the National Action Plan Renewable Energy (November 2010).

Concerning the interrelation of the 3 themes of Europe 2020 (greenhouse gas emissions, energy efficiency, renewable energy) a coherent approach can be noted in the sense that there is a separated plan for the three related themes, with mutual cooperation. The energy efficiency plan and the renewable energy plan is effectuated by the same institute (Vlaams Energie-agentschap), and the Klimaatbeleidsplan by a separate administration (LNE). Cooperation between VEA

and LNE exists primary in a joint use of forecasting techniques (performed by VITO). The statement was heard that the cooperation between both institutes could be improved.

Strategic capacity of the policy bundles

For Belgium, the aim is 13% renewable energy in 2020. However, there is no agreement yet on the way in which the different regions (Flanders, Wallony, Brussels) have to contribute to this percentage.

Concerning energy efficiency, European and decretal aims have to be effectuated, and the necessary actions will be taken to maintain the decline of energy use and energy intensity since 2005 (Beleidsnota Energie, p. 26).

Next to this, a couple of policy competences relating to energy are also federal matter, This is caused by the technical and economic indivisibility, which requires an equal treatment over the regions, which are:

- The national equipment program in the electricity sector;
- The nuclear fuel cycle;
- The large infrastructures for storage, transport and energy production;
- Rates.

(Beleidsnota Energie 2009-2014, p. 11)

This division of competences also means that Flanders cannot propose an integrated approach for renewable energy or energy efficiency on its own). This results in an postponement of the division of targets between the Belgian regions, but also considering a very crucial issue to the discussion, t.i. a position statement towards the future of nuclear energy (shut down since the fall of the government). The consultation process has been aborted since the fall of the federal government (26th april, 2010).

The only "sector" and policy competence that is not involved, is economy. This can be explained since emission rights policy is regulated on European level.

In the Flemish Action Plan energy efficiency (2008-2010), the Flemish benchmark for energy reduction has been determined: 9% of the final domestic energy use, this means in concrete: 16958 GWh final. For the determination of the intermediate aim in 2010, one opted for a proportional distribution over the years, during the term of the directive. Concretely this means an energy saving of 1% per year, and 5653 GWh final (Vlaams Energie-efficiëntieplan 2008-2010, p. 3).

Since the vision of all Flemish documents is related to VIA 2020, which is in its turn trying to be an answer onto the Europa 20-20-20 goals, it is interpreting the challenge as to meeting the European standards (cf. earlier). However, a new government can express is specific accents within energy policy, e.g. a socialist competence has more attention to the problem of affordability of energy.

The vision is also updated in the sense that is was not present in former policy documents (90's) (e.g. former Milieubeleidsplannen, RSV).

The planning process is evidence based in the sense that the evolutions in some very important indicators are closely followed (cf. http://www.emis.vito.be/energiebalans-vlaanderen), also in the sense that new trends are closely followed, and that a lot of attention is been given to the relationship between monitoring and forecasting.

The development of the plans asks for a continuous stakeholder consultation process, although, since the energy efficiency plan monitors the results of already established policies in relation to the forecasts, stakeholder consultation is less necessary (or less extensive). For this, consultation with representative boards like the SERV (Sociaal-economische Raad van Vlaanderen) together with MINAraad (environment and nature)is effectuated, in which all important federations are already included. In the context of the plan for renewable energy, the consultation process is broader, since here the renewable sectors are also important stakeholders.

Articulation in objectives

There is a vast array of measures-competences, in the coordinating plans but also in de sectoral competences who are relevant to the energy problem (mobility, housing, agriculture,….). In the "Nationaal Actieplan Hernieuwbare Energie" there is a clear listing of policy measures within the different competences and competence level (regional, federal,….) (Nationaal Actieplan Hernieuwbare Energie, 2010, p. 6-7). Whether all measures are mutually coherent, requires a more thorough analysis.

Within every policy plan a prioritization exists of visions and actions, but this is short term (5 years). For other themes there does not exist a real prioritization, since the time frame to achieve the 20-20_20 goals is short term. All policy measures have to be effectuated now.

Concerning energy efficiency, the main goal is the continuation of existing policies and closely monitoring results and changes in forecasts. There is one new related measure, t.i. the reform of the mobility taxation system.

The approach as far as renewable energy and reduction of greenhouse gases is concerned, is similar, with a "bottom-up" approach, which means an adding up of the regional strategies and monitoring whether the targets are reached. New policy measures will then be added in the "beleidsbrieven".

On longer term, the attention is drawn to Roadmaps on Energy and Climate Change (set out by the European Commission), on wich meetings and working groups are starting now.
Within the VEA, after the effectuation of the energy efficiency plan, discussions and brainstorm will focus on the longer term (2050).

Monitoring is effectuated by VITO and updated yearly (http://www.emis.vito.be/energiebalans-vlaanderen (production - consumption) Data on renewable energy and energy productions are available on the website of the "Studiedienst van de Vlaamse Regering" (delivered by VEA) and on and http://www.emis.vito.be/inventaris-duurzame-energie.

Possibly there will be a need of yearly monitoring of a set of other indicators between 2011 and 2014, but these are top down indicators (by which is meant that the standards and technology is completely set out by the European Commission). Own indicators always have to be motivated and before the Commission.

More information about the indicators on energy efficiency will be available in the "Energie Efficiëntieplan".
The policy plan also gives an overview of the policy effects per strategic objective and related indicators to monitor (Beleidsnota Energie, p. 26-29)

Efficiency of the strategic capacity of the policy bundles

The energy efficiency plan is very transversal in nature. This needs horizontal integration and cooperation. Vertical cooperation is also required, since the federal policy competences.

Cooperation with the spatial planning competence is not well elaborated. The only theme on which cooperation exists is the provision of space for wind energy.

Many attention has been given to the issue in public debates, media and scientific platforms.

A think tank of mobility, which consists of a delegation of scientists, recently criticized mobility for setting out wrong priorities. According to them, "rekeningrijden" is a stronger and urgently needed policy measure to reduce

greenhouse gases and improving of energy efficiency compared to the actual stress on electricity based forms of mobility. In the policy plan, a feasibility study is mentioned concerning the former, but no concrete policy measures yet.

Secondly strong protest exists of the renewable energy sectors, since fiscal measures concerning the placement of solar energy were recently aborted.

Another media discourse focused on the effects of actions taken by the energy distributors to foster green energy, but results in higher energy prices for the consumer.

Finally, a documentary of Flemish national television criticized the absence of big investments in the national power grid, which results in a less than effective linking up of renewable energy resources (eg in Zeebrugge). It also laid emphasis on the abortion of some large scale initiatives of foreign investments of gas- en coal based power installations, eg in the harbor of Antwerp. This results out of differences in opinion between the Flemish and federal ministers of energy (Flemish government focuses on renewable, while the competence on traditional forms of energy lies with the federal government).

1.11. Globalization

Direct/indirect relationship with the macrochallenges

In the document « Vlaamse Lissabonrapportering 2009", statements are made on how to deal with globalization challenges in Flemish context. This means in concretu that:

- Focus is laid upon the development of creative and knowledge economies (Eco05, Eco06, Emp02, Emp03);
- Economic growth and employment are important benchmarks (Glo11, Glo12).

More concrete strategies are:

- Investments in creative and knowledge economy;
- Unlocking entrepreneurial capacities;
- Job opportunities for the precedential categories;
- European energy policy (cf. supra).

The Beleidsnota Economie 2009-2014 presents indicators related to the aforementioned subjects.

The Pact 2020 and VIA are the basis for the "Vlaams Hervormingsprogramma Europa 2020", which is approved by the Flemish Government in November 2010. The aims and benchmarks a put forward by the plan, are:

- Employment rate of 76% of the population between 20-64;
- 3% of the BBP to be invested in R&D (Tec02);
- To diminish the school dropout rates to 5,2% (Edu02);
- 47,8% of the younger generation (30-34 year olds) to have a degree or diploma of higher education;
- Reaching the "20/20/20"-climate and energy targets (cf. supra);
- A decrease of people living in poverty of 30% (Glo16);
- 50% less child poverty (cf. Armoedemonitor);
- A budget equilibrium for 2011-2014. (Vlaams Hervormingsprogramma Europa 2020, 2010) .

De Flemish Government also contributes to the Nationaal Hervormingsprogramma, which sets out the aims on national level. This program was laid down on 15th april 2011 to the European Commission.

The most important "policy bundles" and related documents are:
- Vlaamse Lissabonrapportering;
- VIA (Vlaanderen in actie):
- Het Vlaams Hervormingsprogramma;
- Het Nationaal Hervormingsprogramma;
- Beleidsnota Ruimtelijke Ordening.
- Beleidsnota Economie (de Open ondernemer)
- Beleidsnota Buitenlands beleid, internationaal ondernemen en ontwikkelingssamenwerking
- Beleidsnota Werk en Sociale Economie
- Beleidsnota Wetenschappelijk Onderzoek en Innovatie

It is difficult to assess the coherence of Flemish Policy concerning globalization. The fragmentation within competences in relationship to aforementioned strategies is big: different ministers and competences for economy and entrepreneurship (Peeters), Science and Innovation (Lieten), foreign policy and international entrepreneurship (Peeters) and employment (Muyters).

The "Vlaamse Hervormingsprogramma" consists of concrete strategies to be followed with concrete benchmarks. 2010). The policy documents of the new Flemish Government (2009), which were constructed before the Vlaams Hervormingsprogramma (2010), do not seem to be updated to the new aims:
- The "Beleidsnota Werk" aims at an employment rate of 70% (according to VIA), but the Vlaams Hervormingsprogramma speaks about 76%.
- The "Beleidsnota Onderwijs" does not mention the new benchmark for shool dropout rates of 5,2%. It still mentions the European benchmark 10%, which is met in Flanders. It is not updated to the new benchmarks yet, neither concerning the aims for 47,8% of young adults having a diploma or degree.

- The "Beleidsnota Wetenschap en Innovatie" mentions the aim of 3% of the BBP in Research and Innovation, which corresponds to the benchmark in the Vlaams Hervormingsprogramma.
- Concerning poverty, every five years a "Vlaams Actieplan Armoedebstrijding" is laid out as a coordinating document between the related competences. (Departement Welzijn, Volksgezondheid en Gezin).

Het "Vlaams Hervoringsprogramma also sets out directives as an answer to the aims of the Annual Growth Survey and the Euro Pact (former name: Pact of Competitiveness).

The AGS brings together the different actions which are essential to strengthen the recovery in the short-term, to keep pace with our main competitors and prepare the EU to move towards its Europe 2020 objectives. Given the urgency, the Commission has chosen to present 10 priority actions, as part of an integrated approach to recovery encompassing three main areas:
- The need for rigorous fiscal consolidation for enhancing macroeconomic stability;
- Labour market reforms for higher employment;
- Growth enhancing measures.

(http://ec.europa.eu/economy_finance/articles/eu_economic_situation/2011-01-annual-growth-survey_en.htm)

Strategic capacity of the policy bundles

The visions of the policy plans are updated in accordance to VIA, but not in relation to the Vlaams Hervormingsprogramma. It is not clear when the update can be expected.

Clearly a lot of indicators and indicator sets (different sources) are constructed and used to base policy upon. Indicators are put forward by VIA, de Vlaamse Hervormingsprogramma, the Further analysis will have to be conducted to analyze the consistency between those indicator sets.

(sources: website of EWI and WSE, Steunpunt Werk en Sociale Economie:
http://www.ewi-vlaanderen.be/
http://www.steunpuntwse.be/view/nl/18767

Within the policy documents benchmarking is been effectuated. (eg Beleidsnota Economie, Vlaamse Hervormingsprogramma).

Coherence will have to be reached by means of the overarching VIA and the "Vlaams Hervormingsprogramma". Although, policy will still have to be updated according to those policy objectives.

VIA is the result of a consultation process and is signed by different and diverse sections of the Flemish Government and the middenveld. All actions following out of VIA, are mentioned on the website www.vlaandereninactie.be. Thematic round tables are organised on a regular basis (in 2010 5 round tables and for 2011 15 in total).

Articulation in objectives

The Flemish Reform Programme contains the following guidelines and constituent strategies:

- An ambitious strategy for R&D and innovation:
- make breakthroughs in research and innovation by focusing on innovation strategies and combining forces for spearhead domains;
- speed up the transformation of the Flemish economy through greater innovative strength;
- position Flanders as a strong, international network region for research and innovation;
- leverage and strengthen the foundations of the knowledge base;
- obtain gains from the research and innovation system by improving the impact, raising efficiency and stepping up funding (Flemish Reform Programme, pp 34-46).
- Improve the business and consumer climate and make the industrial base more sustainable by:
  - getting more people into employment in more workable jobs and on average longer careers;
  - improve the quality of the education and training systems;
  - ensure high-quality liveability.

Past practice was to pursue and stress economic development in specific sectors and activities. This is less the case nowadays, but on account of the location of Flanders and the European emphasis on a knowledge-driven and innovative economy, these sectors are now being mentioned frequently in policy memorandums. In innovative economies the VIA plan suggests pursuing mainly:

- logistics and transport;
- ICT in healthcare;
- food and health;
- new materials and nanotechnology;
- energy and the environment.

While there may appear to be coherence at first sight, the numerous themes and different policy levels require a study in their own right.

As far as prioritization of measures is concerned, there is none. As is the case with some climate and energy targets, this is explainable by the relatively short horizon of 2020 put forward in European policy, nut maybe also by the lack of coordination between the affected policy domains.

A clear cut budgeting is not present, at least not in the policy documents or the Vlaams Hervormingsprogramma. The interview (Koen Vermoesen and Geert Mertens) also showed some scepticism around the multitude of issues to deal with but no corresponding appropriate budgets. A more strategic approach would be appropriate to make some strategic choices and avoid budgetary fragmentation. As such, budget could be bundled on a couple of themes which allows for a more efficient policy (eg brownfield policy). However, for the moment there is no answer to the fragmentation of budgets, and this may be linked to the fact with the sense of urgency does not exist.

(within the Vlaams Hervormingsprogramma chapter 6, an overview can be found on how to use European Structural Funds within Flanders, but in very general terms).

A very important platform for stakeholder consultation is the SERV (Sociaal-Economische Raad van Vlaanderen). It formulated recommendations on Flemish policy documents en reform programs, en represents a broad spectrum of stakeholders.

Efficiency of the strategic capacity of the policy bundles

The predominance governmental competence on this issue is unclear. The policy competences are as previously stated fragmented, in addition within the AO (t.i. an Agency within the Flemish Policy Department of Economy that deals with spatial aspects), the feeling exists that an integrated strategy is necessary, which could be obtained within the new BRV.

In order to address the challenge of globalization, ministers of economy, science and innovation and spatial planning should work out a joint thematic and spatial elaboration of the challenge.

The fragmentation is not only on present on Flemish governmental level, but also on lower levels. Every municipality, area and level has and looks for its own investments. The Spatial Planning opinion is that there should be thinking in terms of an urban network, a network in economic gateways and similar, but there is far too little thinking in this direction at present.

An attempt could be made to give priority to strategic places in areas with high dynamics and to direct funding towards places where the image of Flanders can be beefed up. This discussion is not being conducted at present.

Within Spatial Planning another idea under consideration is an alteration of scale, i.e. either upscaling or downscaling. The idea of urban networks was put forward in the Flanders Spatial Structure Plan, but initially confined to the Flemish Diamond.
It is necessary to look beyond the borders by considering, for example, how a tie-in can be established with urban complexes in adjacent regions (like the Lille Metropolitan Area).
But there can also be downscaling, because liveability is an essential part of Flanders' competitive position.

1.12. Demography

Direct/indirect relationship with the macrochallenges

Based on the above major challenges, relevant policy competences can be determined as follows:

- Housing, including affordability of housing: housing policy (Minister Van Den Bossche)
- Transport Policy: mobility policy (Minister Crevits);
- Environment: environmental quality (air quality, noise levels, green spaces) (Schauvlieghe Joke)
- Health, wellbeing and familiy (Jo Vandeurzen)
- Culture (Schauvlieghe)
- Media and tourism (Bourgeois)
- Spatial Planning (Muyters)
- Economics: retail trade (Peeters)

Also in the 2020 Pact and VIA relevant guidelines are formulated:

- Quality of life of a high standard;
- Future-oriented help and care;
- Social inclusion and social participation;
- Healthy and pleasant living environment.

There is no overarching plan dealing with demography (in comparison eg. with the climate plan and energy efficiency plan that integrates and coordinates the measures taken. There is no "minister of demographics", but this is viewed as a crosscutting theme in which any policy competence is responsible for the necessary measures.

Spatial Planning and Urban Policy are to be considered as transversal policy domains, since the obligation to synthesize thematic policy within a spatial

context. Regarding spatial planning, the new "Beleidsplan Ruimte" is a very important flagship project since it is strongly related to the implementation of one important VIA-breakthrough: "Vlaanderen Groen Stedengewest".

The coherency of the approach is difficult to assess because of the large variety of themes involved; the consistency should be explored in a more thorough study. In all respects, each thematic policy is responsible for the implementation of demographic trends and projections in its own policies (education for the provision of schools, welfare care and child care, mobility, ...), but the sense of urgency is not clear in all policy domains. Spatial Planning sets out guidelines for the location of services of general interest. In some cases, however, this spatial policy get in conflict with location policies of other policy competences (eg. Wellbeing, cf. further).

There is an impression of a lack of a strong coordinative power, maybe not essential for an effective policy, but could endanger the formulation of a clear encompassing vision and sense of urgency.

In any case, RWO is working on an inventory of trends related to demography in the context of the Green Paper Spatial Planning (end 2011), in which all relating themes (effects on additional schools, additional child care, nursing homes, housing typologies,…) are covered. An integrated approach is possible in the BRV.

Strategic capacity of the policy bundles

The challenge could be interpreted as a concrete population forecast. Different policy competences base their policy plans (and are updating it) on the most recent population projections, This means that policy is evidence based, but based on a business a usual scenario. Policy can also follow a proactive approach, e.g.take into account active policies trying to tackle existing trends (eg urban policy)

It is correctly framing regional dynamics in the wider territorial perspective, although population growth has so far been underestimated. The 2011 population forecast is based on a population of 6.6 million inhabitants in Flanders, or an increase from 2008 of 7%. Experts from the Centre for Spatial Planning and Housing however, argue that external migration by the Flemish policy severely underestimated.

The policy documents are based on "Vlaanderen in Actie", and it can be assumed that the intended breakthrough "Flanders Green Cities Region" (Vlaanderen Groen Stedengewest) will have a crucial and comprehensive role with regard to everything relating to the further expansion of the settlements system. as it

determines the spatial configuration in which to live, work, mobility and services will be grafted. In addition, it can be assumed that the VIA goals for poverty reduction, help and care, healthy and pleasant living environment ... are also reflected in the policy documents of the various competencies.

It is currently unclear how policy is coordinated to tackle this particular spatial problem. BRV will have a crucial role in this. As previously stated, within the spatial planning department discussions are vivid about how to deal with the settlements system, and how to deal with the duality "town and country". The policy until now has been to delineate “urban areas”, in which "high dynamic developments" (such as retail, economy, housing developments) are possible. Outside of them, these new developments are discouraged.

The strategic aims of housing policy are:

- The promotion of affordable housing in Flanders;
- Construction and renovation of housing in a sustainable and high quality fashion;
- Residential security guarantee;
- An equitable access to affordable quality housing;
- Focusing on a warm social community.

Mobility as policy area plans to work on following strategic objectives:

- A quality service for smooth and safe traffic on the transport grid;
- Smooth and safe transport;
- A qualitative, comprehensive, (cost) efficient and integrated public transport supply;
- Reducing the impact of transport on people and environment;
- Efficient and cost-conscious governing with a future-oriented mobility policy;
- High quality and well thought-out infrastructure.

The policy competence environment refers to the Pact Vlaanderen 2020 and VIA breakthrough 'Green and dynamic urban region ", which states that Flanders in 2020, will have to score as well as other top economic regions in terms of water and air quality, biodiversity, soil and noise pollution. If Flanders does not succeed in reaching the goals with the measures imposed by European Government, additional targeted measures will be taken. Another aim is to foster quality of life, so that the risk of damage to the environment, climate and human health is reduced to a minimum. This takes into account the most vulnerable groups in society. This aim also lays the foundation for an enhanced overall quality of life, so that Flanders is a good place to live, to live and work. (p. 13)

The social economy policy is responsible for the development of a local service economy.

The policy memo “Health and Family Welfare” stresses the following objectives:

- To develop assistance and services in that way to be sufficiently available and accessible and tailored tot needs;
- To steer, encourage and support the welfare and health care actors as to offer a suitable care in an adapted infrastructure, constantly innovative, to promote an inclusive approach and to act in a sustainable way;
- To work closely, with all relevant partners at local, provincial, regional, national and international level, so welfare and health are geared to one another and improved, and to call the partners to account for their responsibilities and contributions.

The policy area of culture has a strategic objective "sectoral policies, socio-cultural adult work and local culture".

The policy area of sports mentions the aim to increase sports supply with all actors and on all levels, an the conduction of a systematic sports and infrastructure policy.

In contrast with what could be expected, the policy memo of Education does not mention a supply to tailor the education supply to the needs of a growing population. On the other hand, the Minister Pascal has recently announced to create 1300 additional jobs in nursery and primary schools. The discussion in part 1 suggests, however, that more is needed.

Some of the above challenges are also to be found in the policy memo of Spatial Planning: Family dilution and aging are seen as key demographic challenges. This vision is translated into an element "the development of creative cities and vital rural areas”, in which a mix would be created of young adults, young families with children, elderly people, with affordable housing and an interesting array of amenities. (Beleidsnota Ruimtelijke Ordening, p. 31).

Other operationalizations in the policy memo are:

- To provide space for urban amenities;
- Adapting homes to elderly or disabled people;
- Ensuring an adequate supply by renovating the existing housing supply;
- Working on a targeted urban policy which makes it possible to condense certain areas and thin out others;
- Ensuring urban green areas;
- Spatial policy as an answer to differential housing needs and increased polarization due to external and selective migration patterns;

- To ensure space and to pursue an active policy to foster qualitative investments.

Spatial Planning will also think about management models for housing and settlement structure (Beleidsnota Ruimtelijke Ordening, p. 32).

Although the coherency of the policy approach related to demographic could be questioned. In some policy bundles there seems to be an ad hoc approach (eg education), which is not affordable given the urgency of the challenge.

The VIA consultation process and the partnership model (BRV) provides opportunities for finetuning and consultation with stakeholders.

Articulation in objectives

The various policy documents, mentioned in the preceding paragraphs, contain a large number of operational objectives, which were initially analyzed based on their relevance to the demographic aspects (ie settlements system housing, transportation, facilities, ...)

After an initial screening of the operational objectives, they seem to be consistent. Spatial Planning will lead the discussion about the settlement system and the government of the housing supply, and it can be expected that the consultation process with other policy areas will intensify in response to the "Beleidsplan Ruimte". The question is whether the urgency of the issue is sufficiently recognized.

Within housing policy, the most relevant targets are the activation of land (allotments) and properties, and the further development of the land and property decree, right. One plans to focus on the realization of modest housing (lots up to 500m ²; Beleidsnota Wonen, p. 23) . Other themes include expanding the range of housing and promote living in their own region. Construction of sustainable and qualitative new housing construction is also related to the climate and energy issue, but is also pursued in the light of the objectives that a greater proportion of the population should live in quality housing. The operational objective of equitable access to affordable and quality accommodation is in line with the focus on a warm and social community, contributes to a social cohesive society.

Mobility policy competence ensures an optimal use of existing road networks and plans to invest in dynamic traffic management, and also to diminish the impact of transport on people and the global environment (such as noise and light pollution, the promotion of green transport). There will also be invested in some "missing links" in the transport network, in order to improve the accessibility of some regions. Major flow of traffic on "lower category roads", along residential

cores are seriously hampering safety and liveability. By creating fully-fledged alternative routes, a number of bottlenecks in the higher category road network will be eliminated, with less structural congestion as a result.

As stated earlier, the provision of an adequate education supply is not an explicit strategic objective of the Ministry of Education, although recently announced 1,300 extra teachers in nursery and primary education. Within the education network it is feared that these will be at the expense of smaller schools in rural areas, but the lack of schooling in urban areas is very obvious. It has been stated that urgent measures are necessary in urban areas to respond to projected population sizes. By 2018, 43,000 infants will be between 0 and 4 years, and including also 30,000 children between 5 and 9 years of which 17,000 will reside in cities. Spatial Planning promotes the creation of new educational facilities particularly in urban areas. A need is observed there, as opposed to the more rural (distant) communities where it is observed that schools systematically closes. But ultimately, the Minister of Education decides what is happening, through his grant scheme.

The policy area "Welfare, health and family" sets out the following operational objectives:

- To develop assistance and services in that way to be sufficiently available and accessible and tailored to needs, with among other things:
  - Investing in the supply and structure of child care amenities to ensure it delivers up to its social, economic and educational function;
  - Youth Assistance as a spearhead and policy priority: investing in expansion, innovation and coordination within an integrated approach,
  - We invest in an adequate range of health care to be able to provide for tailored-up services;
  - Accessible and available service with attention to peculiarities of the living conditions and care needs of specific audiences.

The healthcare infrastructure is further described as qualitative, sustainable, accessible. Enhancement of the voluntary sector is also mentioned as an engine for a caring and participative society, and examining the benefits of the pros and cons of the organization of the residential care provided by public, private and social profit private commercial providers.

Finally, and relevant to the problematic of an ageing population, the policy domain aims to research the advantages and disadvantages of organizing residential care by public, private social profit and private commercial care providers.

During the interview the important role of the private sector in providing concepts of housing-care combinations was stressed. Solutions are sought to provide care in the home environment, in such a way that people living in the neighborhood can also benefit from those services. Very often, PPP's are constructed with the involvement of local authorities and private partners. This also happens in contexts where existing homes no longer appear to meet today's quality and safety standards, and renovation or complete replacement is appropriate.

The policy domain of well-being mentions cooperation with all relevant partners at local, provincial, regional, national and international level, so that well-being and health is harmonized and improved. Setting up a spatial strategy, together with Spatial Planning could be a point of attention, certainly since both adopt a different space logic for the placement of new rest home beds (dispersal vs pooling in urban areas).

The development of retail seems to be an absentee in active policy. Although European directives exist (Bolkestein directive which intends to realize a break through by concentrating retail in occupied areas, local governments sometimes think otherwise. A spatial policy on retail trade seems to be strongly needed. Currently, RWO is preparing a circular concerning a characterization of retail stores and where they can be localized. But no policies exist which deal with the spatial structure of retailing within Flanders. The policy domain of economy does not set out directions either.

For individual policies a prioritization framework exists, but not for a comprehensive and coherent approach to the demographic problem. Could Spatial Planning and the BRV play a role in this matter?

As far as monitoring is concerned, VIA has constructed a benchmarking and indicator system, in which additions are still possible. This is eg. an attention point for the policy domain of "Welfare, Health and Family". However, those indicator systems are necessary since VIA mentions some very concrete benchmarks related to care. Some examples (Pact 2020, p. 9-31):

- sufficient supply in the continuum of care (primary and home care, disabled, mental health, elderly) and a concrete benchmark of qualitative formal childcare for at least half of the children under 3 years, halving the number of children born into poverty, a reduction of illiteracy to 3% and in terms of housing a substantial increase in housing quality in 2020, by halving the proportion of the population involved in a dwelling with two or more structural defects and / or a lack of basic comforts (with respect to 2006), including the creation of at least 43,000 additional social rented housing as stipulated in the decree land and property policy.

- a reduction in 2020 of the average annual concentration of particulate matter (PM10) by 25% compared to 2007, in respect of all European particulate matter standards.
- a significant reduction in potentially seriously affected by traffic noise by 15% by 2020. Most Flemish watercourses already have a good ecological status so an achievement of the directives of the Kaderrichtlijn Water will be possible in 2021 at the latest.
- As far as biodiversity is concerned, Flanders will perform as good as the top economic regions in Europe. To this end, Flanders will have furnished, redeveloped, designated,…enough habitats to meet 70% of the conservation objectives of European protected species and habitats. Both the absolute amount of forest area as its quality will increase significantly and at least half of the urban areas have an urban forest or has started one. Nature conversation and protection of the landscape are also responsible for job creation.
- Flanders envisions a 20 % decrease of the fatalities and 25% of the seriously injured victims realized in 2020. The number of kilometers travelled per person commuting by car will be drastically reduced. This will be realized by the stimulation of home work. By 2020, moreover, 40% of commuting trips will be made both by public transport or transport on foot or by bike.
- In 2020, Flanders will score among the highest in Europe with respect to different aspects of quality of life. This is shown by a high level of happiness among the population, a high overall satisfaction with their own living conditions, living standards and longer life span in good health. To achieve this, Flanders will conduct an inclusive policy, transversal to different policy areas, more particularly concerning elder care, care for disabled people, mental health care and special youth care. The avoidable mortality will decrease to 35% by sickness prevention and the reduction of suicide numbers.

Whether stakeholders (private actors, NGOs, etc) are involved in the definition of the measures or in their implementation, could not be investigated thoroughly for the vast array of aforementioned policy bundles.

Efficiency of the strategic capacity of the policy bundles

As far as vertical integration is concerned and the predominance of certain field, there seems to be no predominant actor in charge of the implementation of policy strategies concerning demography. The "Studiedienst van de Vlaamse regering" has a supporting role in analysis and forecasting, but policy is established by the different competences. "Stedenbeleid " and spatial planning face the challenge of being inclusive, but the ministers have the decision power in the various sectoral policy competences..

Vertical integration with upper levels seems less relevant for the European policy level (since no direct policy measures are instructed from top down), and the national level. However, integration with national policy does not seem to exist.

As far as the lower policy levels are concerned, the policy level of Flanders sets out directives to be followed by local policy for eg housing, economic developments, the location of provisions, etc. The policy competence of Flemish Spatial Planning policy level, for instance, is to set out the amount of needed housing based on population forecasts and fixes the amount to be constructed within "stedelijk gebied" and buitengebied". Within those packages, provinces start to differentiate and give directions to the municipalities,

With regard to housing provision in particular, the Grond- en Pandendecreet provides a toolbox for local governments to increase the affordability of housing. A local action programme has to delineate the areas which will be developed for housing in the next 10 years. A quarter of the overall area will have to be designated to social housing. In 2020, 43000 social rent dwellings, 21000 private property social housing units and 1000 social allotments will have to be created extra. The needed supply per municipality is assigned a ratio of the no. of present households, by binding social objective.

(It is not clear for the moment, how the subsidiary system of assigning new housing units to municipalities a described earlier related itself to the social binding objective put forward by housing policy).

This system also obliges private investors to provide for a part of social housing in their real estate developments. This results also in a scattering of initiatives in local ppp constructions but also means that social housing is now possible on a wider variety of locations. Earlier policy stipulated social housing to be localized only at the outskirts of cities and villages, now there is no restriction.

Next year the decree will be evaluated for the first time.

It can be noted that the decree strongly focusses on affordability, but draws less attention to other challenges related to demography, such as smaller housing units to answer for the reduction in household size, ageing,…..this can be answered by the recommendations made by the Flemish government concerning the type of housing and the required space (cf. paragraph 1.4.a). Moreover the polic memo of housing mentions the encouragement of smaller dwellings (up to 500 m²). The municipalities have the right to further limit the maximum size standards set out by Flemish government. Also RUP's and "plannen van aanleg" in which housing developments are created, are entitled to set out obligatory standards which favor the creation of modest housing. They can also be

modulated as a function of the family structure. The ratio is also determined by binding social objective (Beleidsnota Wonen, p. 23)

The topic is very prominent in public and scientific debate. E.g. in the Itinera-thinktank:
http://www.itinerainstitute.org/nl/over-itinera/wat-we-doen/

Actually, the theme of housing in the Policy Center of Spatial Planning and Housing is conducting research to support housing policy in identifying challenges for the future. The research will also refer to other, demographic related themes such as care and education.

6. Future threats and opportunities for Flanders

1.13. Climate

1.13.1. Spatial terms

Threats:
Loss of biodiversity
Flooding caused by extraordinary weather conditions and sea level rise
Inability to deal wit consequences of dispersed spatial structure (inheritance from the past)

Opportunities:
Better climatic conditions which favor tourism
Finding technological solutions-material which allow for a better water permeability

1.13.2. Governance

Threats
Mitigation: difficulty to deal with external forces, which are outside of policy competences (eg. Transit traffic)
Lack of power of coordinating policy competence to impose onto other policy levels
Adaptation: lack of sense of urgency in upper policy levels – problematic of housing in flooded areas
Tensions between need of long term planning and short term political agenda

Opportunities:
Joining forces between adaptation and mitigation policy, in order to anchor the climate challenge firmly in the political agenda
Closer cooperation between climate policy and energy policy.
Enthousiasm of stakeholders to tackle the challenge from bottom-up

1.14. Energy

1.14.1. Spatial terms

Threats:

Flanders does not have enough space nor the climate for a large scale development of renewable energy resources (wind, biomass, solar energy)
Inability to deal with consequences of dispersed spatial structure (inheritance from the past)

Opportunities:
Off shore wind energy an cogeneration
Improving the power grid in order to make better use of existing renewable

1.14.2. Governance

Threats
difficulty to deal with external forces, which are outside of policy competences (eg. Transit traffic)
energy affordability as an extra problem and effects of policy measures regarding renewable energy on the energy bill
Lack of consensus regarding necessary and most urgent policy measures
Discrepancies in vision between Flemish and federal government
Lack of clear policy statement related to nuclear energy

Opportunities:
The elaboration of a coordinated policy between climate and energy challenges
Striking a balance between renewable and non-renewable energy resources

1.15. Globalization

1.15.1. Spatial terms

Threats
Lack of sense of urgency, aggravated by the crisis and absence of a federal government.
Lack of a joint policy of the different competences
Scattering of budgets among a vast array of strategic objectives
Dealing with the professionalisation of economic sectors and real estate developers

Opportunities

Adopting a spatial economic policy which is less focused on providing hectares for economic developments but on innovative strategies (joint use)
Adopting a spatial economic policy which stress a liveable environment as important asset
Working out a joint strategy with economic sectors and cities, municipalities,… for the promotion of Flanders as an economic region

1.15.2. Governance

Threats
Lack of sense of urgency, aggravated by the crisis and absence of a federal government.
Lack of a joint policy of the different competences
Scattering of budgets among a vast array of strategic objectives
Dealing with the professionalisation of economic sectors and real estate developers

Opportunities
Adopting a spatial economic policy which is less focused on providing hectares for economic developments but on innovative strategies (joint use)
Adopting a spatial economic policy which stress a liveable environment as important asset
Working out a joint strategy with economic sectors and cities, municipalities,… for the promotion of Flanders as an economic region

1.16. Demography

1.16.1. Spatial terms

Threats
Underestimation of migration flows and spatial consequences
Lack of schools in urban regions
Lack of care provisions for the elderly in specific regions (eg coast)
Certain municipalities experience limits of possible population growth
Residential segregation problematic and problems of integration as a whole

Opportunities
Migration as an extra workforce
Finding opportunities of joint use of buildings (combination of care, education,…)

Positive impulse of private initiatives for housing-care-provisions complexes, which also serve the neighboring population

1.16.2. Governance

Threats

Underestimation of migration flows and consequences in policy

Focus on a business as usual scenario and lack of vision for spatial development of the settlement system

Lack of urgency in certain policy fields (eg. Education) and absence of coordination

Opportunities

VIA as an encompassing strategy and BRV for the implementation of the Flemihs settlement system

7. Additional methodologies of indicator collection: qualitative indicators

The analysis of data availability showed that within Flanders a fair amount of data exist and other monitoring facilities, to construct a monitoring system on the aggregated level of Flanders. However, some indicators can be proposed on for which other methods are necessary (expert knowledge).

Moreover, it is our opinion that , although an evidence based approach (based on quantitative data) could be followed for the analysis of the situation, more information could be gathered upon priorities in policy making and the way in which policy making is organized. On this topic, further elaboration will follow in the analysis of policy bundles and the test / validation of the usefulness of the analysis for policy making.

The methodology will be elaborated upon in the final report.

7.1. Indicators related to the actual situation

7.1.1. Climate change

Initiatives of climate adaptation by local authorities.
Immigration related to climate change
Economic viability of ecosystem services in the agricultural sector

7.1.2. Energy

Potential for different forms of renewable energy in Flanders

Economic viability of "green" logistics

7.1.3. Globalization

Agglomeration effects in Flanders:

Universities – science parks

7.1.4. Demography

…

7.2. Analysis of policy bundles

The analysis of policy in itself can be the base of the qualitative monitoring system. In ESPON TPM the analysis was conceived based upon a desktop analysis, interviews and a workshop, but the analysis could also become more standardized, with appraisal questions posed to experts. However, the whole analysis does not need to be repeated with the same cyclicity.

Cyclical update of the qualitative appraisal questions

1. Awareness of the macro challenges [to be compiled per each macro-challenge]	**Medium-term cycle** (2 years)
2. Resilience of the planning system	**Long-term cycle** (4 years and in sensible contexts – e.g. 1 year after a new government and related institutional/governance changes)
3. Effectiveness of policy bundles [to be compiled per each macro-challenge]	**Short-term cycle** (1 year)
4. Future threats/opportunities of the macro challenges [to be compiled per each macro-challenge]	**Medium-term cycle** (2 years)

The effectiveness of the policy bundles could have a short-term updating cycle, in order to grasp differences in terms of adoption of new policies and/or also of new measures and governance processes.

The awareness of the macro challenges and the perception of future threats and opportunities are correlated. Their update follows a medium-term cycle because of the progress in the raising of changes and their perception.

The Resilience of the planning system is affected by a more long-term changes and consequently the appraisal process should be set in a long-term updating cycle. However, important changes may take place in occasion of the setting of a new government. In this case, an year later could be a proper time to investigate the progresses and the changes influenced by new competences and institutional and governance changes.

8. Indicator tables

8.1. Climate Change

indic_cod	indicator	Category_Flanders	Benchmark	EU benchmark	competence spatial planning region	Level available	Data provider	key_indic
Env25	**Greenhouse gas emissions in total**	Emmissions	yes	No		Nuts1	VMM	yes
Env26	**Greenhouse gas emissions per sector**	Emmissions	yes	No		Nuts1	VMM	yes
Env03	Concentration of particulate matter on surface level, 2009	Emmissions		yes	no	Nuts3	Eurostat	
Env04	Ozone exceedance days, 2008	Emmissions		yes	no	Nuts3	Eurostat	
Env05	Change in minimum temperature January, 1994 - 2008	Temperature		yes	no	Nuts2	Rerisk	
Env06	Change in maximum temperature July, 1994 - 2008	Temperature		yes		Nuts2	Rerisk	
Env07	Change in mean temperature January, 1994 - 2008	Temperature		yes		Nuts2	Rerisk	
Env08	Change in mean temperature July, 1994 - 2008	Temperature		yes		Nuts2	Rerisk	
Env27	storm frequency	Precipitation patterns		No		to check	KMI - MOW	
Env28	flood frequency	Precipitation patterns		No		Nuts0	VMM	
Env31	Evolution of ground water level	Precipitation patterns		No		Nuts1	VMM	yes
Env02	NATURA 2000 areas, 2009	Biodiversity		yes	no	Nuts3	Eurostat	yes
Env33	Arrival date of migrating birds	Biodiversity		No		Nuts1	INBO	yes
Env34	Spring index dragonflies	Biodiversity		No		Nuts1	INBO	yes
Env35	Peak Moment in birch pollen	Biodiversity		No		Nuts1	INBO	yes
Env36	Trend Southern European dragonfly species	Biodiversity		No		Nuts1	INBO	yes

Cl01	Fragmentation index of nature	Biodiversity		No		not yet	In development (INBO, Natuurindicatoren 2011)	yes
Env29	wildfires: number of hectares protected nature area laid waste by natural disasters compared with the total	Extreme weather events		No		N.A	N.A	yes
Hea01	N of casualties in heat waves	Health		No		Nuts0	VMM	
Hea02	N of casualties in respiratory diseases	Health		No		to check	???	
Hea03	Heat islands	Health		No		Not yet	CCASPAR	yes
Hea04	Smog Formation (winter and summer): nr of summer and winter smog days	Health		No			VMM (according to Ccaspar)	yes
Env01	Soil sealing, 2006	Environment		yes	partly	Nuts3	5th Cohesion Report	yes
Cl02	Agricultural production: crops and cattle	Environment		No		Nuts1	Studiedienst Vlaamse Regering	yes
Cl03	Water quality	Environment		no			VMM	yes
Cl04	Evolution of natural and man made heritage	Environment		no			to check	yes
Cl05	Evolution of Tourism	Environment		no			to check	yes
Env32	CO2 captation capacity trees	Mitigation		No		not yet	INBO	yes
Env30	Buffer capacity of valleys to retain water	Adaptation		No		to check	VMM	yes
Urb15	Signal Areas: amount of "hard functions" in flooded areas	adaptation		No		Locatio n	MerkatorNet	yes
Urb16	Climate adapted urban development: proportion of green area related to built up area in urban cores	adaptation		No		Locatio n	based on land use map (VITO)	yes
Urb17	Climate adapted urban development: proportion of water surface related to built up area in urban cores			No		Locatio n	based on land use map (VITO)	yes
Cl07	Total agriculture area with "beheersovereenkomsten"	Adaptation		no		Nuts1	Departement Landbouw en Visserij, afdeling Monitoring en Studie (http://www4dar.vlaanderen.be/sites/svr/Cijfers/Pages/Excel.aspx)	yes
Cl08	Location of high risk zones for flooding	Adaptation		no			In development (cf. Belgian National	yes

							Adaptation Strategy, 2010)	

8.2. Energy

indic_cod	indicator	Category_Flanders	Benchmark	EU Benchmark	competence spatial planning region	Level available	Data provider	key_indic
Ene04	Fuel costs of freight traffic as % of GDP, 2005	Energy consumption		yes	yes	Nuts2	Rerisk	
Ene01	Potential energy consumption for heating, 1981-2009	Energy consumption		yes	no	Nuts2	Eurostat	
Ene31	**Share of "green electricity" / total energy consumption**	**Energy Consumption**	**yes**	**No**	**no**	**Nuts1**	**Studiedienst van de Vlaamse Regering (VITO)**	**yes**
Ene26	Modal Split (freight)	Energy Consumption		No		Nuts1	Studiedienst van de Vlaamse Regering	
Ene27	Modal Split (persons)	Energy Consumption		No		Nuts1	Studiedienst van de Vlaamse Regering	
Ene28	Modal Split (commuting)	Energy Consumption		No		Nuts1	Studiedienst van de Vlaamse Regering	
Ene18	Energy saving construction	Energy Consumption		No		to check	to check	

Ene19	Energy saving appliances	Energy Consumption		No		to check	to check	
Ene34	Energy saving behaviour	Energy Consumption		No		Nuts1	Studiedienst van de Vlaamse Regering, SCV-survey	
Ene32	recycling of energy	Energy consumption		No		to check	to check	
Ene33	No, of firms specialized in renewable energy	Energy production		No		to check	to check	
Ene02	Solar energy resources, 1981-1990	Energy production		yes	partly	Nuts3	5th Cohesion Report	
Ene03	Wind energy potential, 2005	Energy production		yes	yes	Nuts3	5th Cohesion Report	yes
Ene16	Potential and existing renewables: geothermal energy	Energy production		No		Nuts1	Studiedienst van de Vlaamse Regering (VITO)	
Ene29	Existing non-renewables: coal, nuclear, gas, oil (share in elektricity production)	Energy production		No		Nuts1	Studiedienst van de Vlaamse Regering (VITO)	
Ene13	% area used for biomass	Energy production		No		to check	to check	yes
Ene14	% area used for wind energy: amount of winturbines and capacity	Energy production		No		locatio n	VEA	yes
Ene15	% area used for hydro energy	Energy Production		No		to check	to check	yes
Ene23	% area used for the production of non-renewable energy	Energy Production		No		to check	to check	yes
Ene24	Decentralized energy systems: re-use of dirty water	Energy production		No		to check	to check	yes
Ene25	Decentralized energy systems: district heating	Energy production		No		to check	to check	yes
Ene35	Smart Grids: No, of smart energy meters	Energy distribution		No		to check	to check	yes
Ene20	Amount of charging / discharging posts for electric cars	Energy Storage		No		to check	to check	yes
Ene36	Amount of hydrogen in storage	Energy Storage		No		to check	to check	yes

Ene12	Energy intensity (kgoe/1000 EUR BBP)	Energy Dependency		No		Nuts1	VITO	
Emp04	Employment in energy intensive industries, 2005	Energy dependency		yes		Nuts2	Rerisk	
Ene17	Mobility: commuting (pendelafstand van het woon-werkverkeer, naar afstandscategorie)	Energy dependency		No		Nuts1	Onderzoek Verplaatsingsgedrag Vlaanderen	
Ene21	Import level of energy	Energy dependency		No		to check	to check	
Ene22	Energy affordability	Energy Affordability		No		to check	to check	
Ene30	**Total energy consumption**	**Energy consumption**	**yes**	**No**		**Nuts1**	**Studiedienst Vlaamse Regering (Vito)**	**yes**
Ene37	Work balance (“arbeidsbalans”);	Energy Consumption		No		to check	to check	yes
Ene38	minimal commuting distance (based on place of residence)	Energy Consumption		no		to check	to check	yes
Ene39	minimal commuting distance (based upon place of work)	Energy Consumption		no		to check	to check	yes
Ene40	weighed proximity to facilities with a quasy daily frequency of visits (bv. Schools, day care, supermarkets, doctors, restaurants, sport facilities,...)	Energy Consumption		no		to check	to check	yes

8.3. Globalization

indic_cod	indicator	Category_Flanders	Benchmark	eu_benchm	competence spatial planning region	Level available	Data provider	key_indic
Eco04	Manufacturing (C)	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Eco05	Information, communication (J)	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Eco06	Professional, scientific, technical activities (M)	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Emp01	Manufacturing (C)	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Emp02	Information, communication (J)	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Emp03	Professional, scientific, technical activities (M)	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Glo29	Specialization in specific segments of production: coefficients of specialization	Competition on Global Sales Market		No		Municipality	Ruimtemonitor (Stenpunt Ruimte en Wonen)	yes
Glo30	Size of companies: structure	Competition on Global Sales Market		no		to check		
Edu01	Tertiary education, 2007	Competition on Global Sales Market		yes	no	Nuts2	Edora	
Edu02	**Early school leavers, 2007**	**Competition on Global Sales Market**	**yes**	**yes**	**no**	**Nuts2**	**5th Cohesion Report**	**yes**
Glo32	% of the younger generation (30-34) with a degree	Competition on Global		no		to check	to check	

		Sales Market						
Glo01	Costs of production: loonkost per eenheid product	Competition on Global Sales Market		No		Nuts1	Eurostat, bewerking Studiedienst Vlaamse Regering	
Glo02	Importance of agglommeration economies: metropolitanisation	Competition on Global Sales Market		No				
Con01	Daily population accessible by car, 2004	Competition on Global Sales Market		yes	partly	Nuts3	EDORA	
Tec01	Internet access, 2009	Competition on Global Sales Market		yes	no	Nuts2	5th Cohesion Report	
Glo28	Import ratio of Flanders	Competition on Global Sales Market		no		to check		
Glo29	Export ratio of Flanders	Competition on Global Sales Market		no		to check		
Glo03	Productivity: productivity of labour	Competition on Global Sales Market		No		Nuts1	Eurostat, bewerking Studiedienst Vlaamse Regering	
Tec02	**Expenditure on R&D, 2007**	**Competition on Global Sales Market**	**yes**	**yes**	**no**	**Nuts2**	**5th Cohesion Report**	**yes**
Tec03	Relative number of patents	Competition on Global Sales Market		yes	no	Nuts2	Eurostat	
Glo04	Knowledge spillover	Multinational firm networks		No		to check	Foci?	
Glo05	Power and control / dependency on decisions taken elsewhere	Multinational firm networks		No		to check	Foci?	
Dem05	Population born outside the EU, 2006	Increased mobility		yes	no	Nuts2	5th Cohesion Report	
Mig02	Migration into NUTS 3 regions	Increased Mobility		yes	partly	Nuts3	5th Cohesion Report	
Tou01	Tourism occupancy, 2009	Increased		yes	no	Nuts2	Eurostat	

		Mobility						
Tou02	Tourism non-residents, 2009	Increased Mobility		yes	no	Nuts2	Eurostat	
Glo28	Share of foreign tourist to the total no, of tourists	Increased mobility		No		Lau1	FOD Economie	
Con02	Accessibility to passenger flights	Increased Mobility		yes	yes	Nuts3	5th Cohesion Report	
Glo06	Increase of international traffic: air	Increased mobility		No		to check		
Glo07	Increase of international traffic: TGV	Increased mobility		No		to check		
Glo08	Increase in international persons traffic	Increased mobility		No		to check		
Glo09	International goods traffic	Increased mobility		No		to check		
Unm01	Unemployment rate, 2009	Less stability labour market		yes		Nuts3	Eurostat	
Unm02	Change in unemployment rate, 2000-2009	Less stability labour market		yes		Nuts3	Eurostat	
Glo10	Unstable employment: amount of failures	Less stability labour market		No		Nuts1	Studiedienst Vlaamse Regering	
Glo31	**Employment rate**	**Less stability labour market**	**yes**	**no**		**Nuts1**	**Eurostat**	**yes**
Glo11	**Growth: GDP**	**Growth**	**yes**	**No**		**Nuts1**	**Studiedienst Vlaamse Regering**	**yes**
Glo13	**Growth: employment**	**Growth**	**yes**	**No**		**RESOC**	**WSE**	**yes**
Glo14	Aantal gazellen op middelgrote ondernemingen	Entrepeneurs hip		No		Nuts1	Studiedienst Vlaamse Regering	
Glo14	Investeringssteun in kleine, middelgrote en grote ondernemingen	Entrepeneurs hip		No		Nuts1	Studiedienst Vlaamse Regering	
Glo15	TEA (total entrepreneurial activity) index	Entrepeneurs hip		No		Nuts1	The Global Entrepreneurship Monitor, Vlerick Leuven Gent Management School	

Glo16	Poverty: population in poverty or social exlusion according to EU2020-definition	Poverty		No		Nuts1	Armoedemonitor	
Glo33	Poverty of children and elderly population: an European comparison	Poverty		no		Nuts1	Armoedemonitor	
Glo17	Social cohesion - Social Polarization: inkomenskwintielverhouding (S80/S20)	Social Cohesion		No		Nuts1	Armoedemonitor	
Glo18	Homogenization of landscapes: nivellering van landschappen	Homogenization		No		to check		
Glo19	Homogenization of landscapes: scale enlargment in agriculture	Homogenization		No		Lau1	Landbouwtelling/Landbouwenquête	yes
Glo20	Homogenization: nivellering van gebouwen	Homogenization		No		to check		
Glo21	Emergence of artifical places	Homogenization		No		to check		
Glo22	Homogenization and internationalization in retailing: share of retail are belonging to international chains	Homogenization		No		to check		yes
Glo23	Homogenization and internationalization in retailing: scale enlargment retailing	Homogenization		No		to check		yes
Glo24	Glocalization in retailing: specifically locally rooted retailing	Homogenization		No		to check		yes
Glo25	Tolerance towards an international lifestyle: amount of expats	Global citizenship		No		to check		
Glo26	Tolerance towards an international lifestyle: amount of mixed marriages	Global citizenship		No		to check		
Glo27	Tolerance towards an international lifestyle: talenkennis en bereidheid om ander talen te leren	Global citizenship		No		to check		

8.4. Demography

indic_cod	indicator	Category-Flanders	Benchmark	EU benchmark	competence spatial planning region	Level available	Data provider	Key_indic
Dem01	Life expectancy, 2004	Demography		yes	no	Nuts2	Demofer	
Dem02	Median age, 2008	Demography		yes	no	Nuts2	Eurostat	
Dem03	Population growth, 1999-2009	Demography		yes	no	Nuts3	Eurostat	
Soc04	Young age dependency ratio, 2009	Social structure		yes	no	Nuts3	Eurostat	
Soc05	Old age dependency ratio	Social structure		yes	no	Nuts3	Eurostat	
Dem12	Quality of life, environmental quality: air quality (still to assess how air quality will be measured!)	Quality of Life		no		Regions	VMM	yes
Dem13	Quality of life, environmental quality: noise levels	Quality of Life		no		Nuts1	LNE	yes
Dem14	Quality of life, environmental quality: green spaces (protected?)	Quality of Life		no		to check		yes
Dem15	Quality of life, environmental quality: water bodies	Quality of Life		no		Nuts1	administratie van het Kadaster, FOD Economie - Algemene Directie Statistiek,	yes
Dem16	Quality of life, environmental quality: odor levels	Quality of Life		no		Nuts1	LNE	yes
Dem17	Quality of life, environmental quality: light pollution: amount of participating municipalities to "Nacht van de Duisternis"	Quality of Life		no		Nuts1	Bond Beter Leefmilieu (via VMM en MIRA)	yes
Dem18	Cultural and recreational amenities: amount of cultural events	Quality of Life		no		Lau1	Uit-Databank	yes
Dem19	Nr of recognized museums and heritage convenants	Quality of Life		no		Nuts1	MVG, administratie Cultuur	
Dem20	Deelnemers aan activiteiten van Culturele Centra naar soort activiteit	Quality of Life		no		Nuts1	Agentschap Sociaal Cultureel Werk voor Jeugd en Volwassenen	

	v/d initiatiefnemer							
Dem21	% recreation area	Quality of Life		no		Lau1	administratie van het Kadaster, FOD Economie - Algemene Directie Statistiek,	yes
Dem22	Service and infrastructure provision: commercial structure and facility level in municipalities	Quality of Life		no		Location	Locatus	yes
Dem23	Amount of child care facilities	Quality of Life		no		Lau1	Osiris databank (Kind en gezin)	yes
Dem24	Nr of nursery schools / preschoolers	Quality of life		no		to check	to check	yes
Dem25	Nr of primary schools / population >6 and <13	Quality of life		no		to check	to check	yes
Dem26	accessibility: supply of train connections (working day)/population	Quality of Life		no		Lau1	De Lijn (in Ruimtemonitor.be)	yes
Dem27	accessibility: supply of bus and trams (working day)/population	Quality of Life		no		Lau1	De Lijn (in Ruimtemonitor.be)	yes
Dem28	Accessibility: potentially reachable population (methode Vandenbulcke)	Quality of Life		no		Lau1	Vandenbulcke, Steenberghen en Thomas (2007).	yes
Dem29	Accessibility: difference between car travel time in peak and low moment to important Belgian metropolitan regions	Quality of Life		no		Lau1	Vandenbulcke, Steenberghen en Thomas (2007).	yes
Dem30	affordable quality of housing: average and p75 selling price pf dwelling per type	Quality of Life		no		Nuts1	FOD Economie - Algemene Directie Statistiek	
Dem08	Number of households	Residential development		no		Lau1	http://www4.vlaanderen.be/dar/svr/Pages/default.aspx	yes
Dem09	Urban sprawl: evolution in built up area	Residential development		no		stat sectors	Cadmap or Topv10GIS	yes
Dem10	Densification: evolution in average parcel size	Residential development		no		to check	to check	yes
Dem11	New types of urban architectures: evolution of ratio appartments in total housing development	Residential development		no		Lau1	www.Ruimtemonitor.be	yes
Dem04	New composition of population: ethnic	Composition		no		Lau1	http://www4.vlaanderen.be/	yes

	composition (% of foreign residents)	of population					dar/svr/Pages/default.aspx	
Dem05	New composition of population: family composition (no. singe households)	Composition of population		no		Lau1	http://www4.vlaanderen.be/dar/svr/Pages/default.aspx	yes
Dem06	New composition of population: ageing (based upon a dataset of age groups)	Composition of population		no		Lau1	http://www4.vlaanderen.be/dar/svr/Pages/default.aspx	yes
Dem07	New composition of population: "greening" (based upon a dataset of age groups)	Composition of population		no		Lau1	http://www4.vlaanderen.be/dar/svr/Pages/default.aspx	yes
Dem31	Amount of doctors/population (active doctors)	Ageing		no		Nuts1	WVG, Agentschap Zorg en Gezondheid	
Dem32	Amount of rest home beds	Ageing		no		to check		yes
Dem33	Amount of health care provided at home (amount of hours spent on home care)	Ageing		no		Lau1	www.zorg-en-gezondheid.be	yes

9. Reference List of policy documents

1.17. General documents

Ministerie van de Vlaamse Gemeenschap (2004), Ruimtelijk Structuurplan Vlaanderen: gecoördineerde versie april 2004, RWO, Afdeling Ruimtelijke Planning, 596 p.
Ministerie van de Vlaamse Gemeenschap (2010), Ruimtelijk Structuurplan Vlaanderen: Addendum informatief gedeelte, RWO, Afdeling Ruimtelijke Planning, 96 p.
Ministerie van de Vlaamse Gemeenschap (2010), Ruimtelijk Structuurplan Vlaanderen: Addendum richtinggevend gedeelte en bindende bepalingen, RWO, Afdeling Ruimtelijke Planning, 96 p.
RWO, Afdeling Ruimtelijke Planning (2011), Nota aan de leden van de Vlaamse Regering, opmaak van het Beleidsplan Ruimte: startnota, 28 p.
Vlaamse Overheid, VIA (2009, Vlaamse Lissabonrapportering 2009, 58p.
Vlaamse regering (2009), Pact 2020: Een nieuw toekomstpact voor Vlaanderen, 33p.
Federale Regering (2011), Nationaal Hervormings-programma België 2011, 121 p.
Vlaamse regering (2010), Vlaams Hervormingsprogramma Europa 2020, 112 p. zonder bijlages.

1.18. Policy notes

Crevits, H. (2009), Beleidsnota 2009-2014:: Mobiliteit en Openbare Werken, 75p.

Lieten, I. (2009), Beleidsnota 2009-2014: WETENSCHAPPELIJK ONDERZOEK EN INNOVATIE, 50p.

Muyters, P. (2009), Beleidsnota 2009-2014: RUIMTELIJKE ORDENING: Een ruimtelijk beleid voor en op het ritme van de maatschappij / Ambitieus in een moeilijke context, 56p.

Muyters, P. (2009), Beleidsnota Werk 2009-2014: een nieuwe arbeidsmarktvisie voor Vlaanderen, 60p.

Peeters, K. (2009), Beleidsnota 2009-2014: Buitenlands Beleid, Internationaal Ondernemen en Ontwikkelingssamenwerking, 73p.

Peeters, K. (2009), Beleidsnota Economie 2009-2014: de open ondernemer, 53p.
Schauvlieghe, J. (2009), Beleidsnota Milieu en Natuur 2009-2014, 58p.

Smet, P. (2009), Beleidsnota Onderwijs 2009-2014: samen grenzen verleggen voor elk talent, 58p.

Van den Bossche, F. (2009), Beleidsnota Energie 2009-2014, 76p.

Van den Bossche, F. (2009), Beleidsnota Sociale Economie 2009-2014, 56 p.
Van den Bossche, F. (2009), Beleidsnota Stedenbeleid 2009-2014: Duurzame en creatieve steden, 78 p.

Van den Bossche, F. (2009), Beleidsnota Wonen 2009-2014, 78 p.

Vandeurzen, J. (2009), Beleidsnota 2009-2014: Welzijn, volksgezondheid en gezin, 82 p.

9.1. Climate Change

Commissie van de Europese Gemeenschappen (2007), GROENBOEK VAN DE COMMISSIE AAN DE RAAD, HET EUROPEES PARLEMENT, HET EUROPEES ECONOMISCH EN SOCIAAL COMITE EN HET COMITE VAN DE REGIO'S: Aanpassing aan klimaatverandering in Europa – mogelijkheden voor EU-actie, 32 p.
Commissie van de Europese Gemeenschappen (2009), WITBOEK: Aanpassing aan de klimaatverandering: naar een Europees actiekader, 19p.
Departement Leefmilieu, Natuur en Energie (2011), Waarheen met ons milieu? Onwterp milieubeleidsplan 2011 – 2015, 150p.
European Commission (2011), COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: A Roadmap for moving to a competitive low carbon economy in 2050, 16p.
IMDV NV i.s.m. TTE (???), Bouwstenen om te komen tot een coherent en efficiënt adaptatieplan voor Vlaanderen: eindrapport, verschillende hoofdstukken, ??? p.
Milieurapport Vlaanderen (2009), Milieuverkenning 2030, 384 p.
Mira 2009 & Nara 2009 (2009), Milieurapport Vlaanderen: Wetenschappelijk rapport Klimaatverandering en waterhuishouding, 100 p.
National Climate Commission (2010), BELGIAN NATIONAL CLIMATE CHANGE ADAPTATION STRATEGY, 39p.

Nationale Klimaatcommissie (2008), Nationaal klimaatplan van België 2009 – 2012: Inventaris van de maatregelen en stand van zaken op 31/12/2008, 139p.
Peeters & Crevits (2009), DEFINITIEF VLAAMS TOEWIJZINGSPLAN CO2-EMISSIERECHTEN 2008-2012, 59p.
Vlaams minister van Openbare Werken, Energie, Leefmilieu en Natuur (2009), Voortgangsrapport 2008 van het Vlaams Klimaatbeleidsplan 2006-2012, 134 p.
Vlaams minister van Openbare Werken, Energie, Leefmilieu en Natuur (2010), Voortgangsrapport 2009 van het Vlaams Klimaatbeleidsplan 2006-2012, 126 p.
Vlaamse Overheid, Departement Leefmilieu, Natuur en Energie (????), Vlaams Klimaatbeleidsplan 2013 – 2020, (in opmaak)
Vlaamse Overheid, Departement Leefmilieu, Natuur en Energie (2002), Vlaams Klimaatbeleidsplan 2002 – 2005, 216 p.

Vlaamse Overheid, Departement Leefmilieu, Natuur en Energie (2006), Vlaams Klimaatbeleidsplan 2006 – 2012, 124 p.

1.19. Energy

Energie Overleggroep Staat-Gewesten ENOVER/CONCERE (2010), Belgie: Nationaal actieplan voor hernieuwbare energie (overeenkomstig Richtlijn 2009/28/EG), 95p.
Europese Commissie (2006), MEDEDELING VAN DE COMMISSIE: Actieplan voor energie-efficiëntie – Het potentieel realiseren, 30p.
VEA (2008), Vlaamse actieplan energie-efficiëntie 2008-2010, 70p.
VEA (2011), Tweede Vlaams Actieplan Energie-efficiëntie (due 30 june 3011)

1.20. Globalization

No particular references.

1.21. Demography

Departement RWO (2009), Decreet Grond- en Pandenbeleid, 96p.

10. Reference list of scientific reports

To be completed

www.espon.eu

The ESPON 2013 Programme is part-financed by the European Regional Development Fund, the EU Member States and the Partner States Iceland, Liechtenstein, Norway and Switzerland. It shall support policy development in relation to the aim of territorial cohesion and a harmonious development of the European territory.

ISBN : 978-2-9600467-5-5 – TPM – Territorial Performance Monitoring